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Monterey, California



THESIS

AN ANALYSIS OF CLAIMS AND CLAIMS AVOIDANCE
TECHNIQUES IN THE SHIP REPAIR AND
OVERHAUL INDUSTRY

by

Carl Thomas Bright

June 1987

Thesis Advisor:

David V. Lamm

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An Analysis of Claims and Claims Avoidance
Techniques in the Ship Repair and Overhaul Industry

by

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Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

Claims settlement and claims avoidance in the current ship repair and overhaul industry are extremely difficult. The intense competition and depressed economic status of the industry has forced several industry contractors to adopt contract buy-in and the submission of zero profit margin bids as a business strategy. The lack of commercial repair and overhaul work leaves the Navy as the dominant industry customer. Navy contracts accounted for 90 percent of the entire industry workload in 1986. This research examines the current claims avoidance techniques employed by the Navy and their effectiveness for future claims avoidance. It also recommends management techniques and procedures for the improving claims avoidance. This research has conducted a literature search, supplemented by interviews with Government and industry officials.

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TABLE OF CONTENTS

I.	INTRODUCTION -----	6
	A. FOCUS OF RESEARCH -----	7
	B. OBJECTIVES OF RESEARCH -----	8
	C. RESEARCH QUESTIONS -----	8
	D. RESEARCH METHODOLOGY -----	9
	E. SCOPE, LIMITATIONS AND ASSUMPTIONS -----	10
	F. ORGANIZATION OF THE STUDY -----	11
II.	BACKGROUND AND FRAMEWORK -----	13
	A. INTRODUCTION -----	13
	B. NAVY SHIP REPAIR AND OVERHAUL ORGANIZATION --	15
	C. THE DISPUTES AND CLAIMS PROCESS -----	24
	D. BASES FOR SHIP REPAIR AND OVERHAUL CLAIMS ---	30
	E. CRITICAL ASPECTS OF THE SHIP REPAIR AND OVERHAUL INDUSTRY -----	38
	F. SUMMARY -----	40
III.	REVIEW OF CRITICAL CLAIMS ISSUES AND PROBLEMS ---	43
	A. INTRODUCTION -----	43
	B. CURRENT CLAIMS ISSUES AND PROBLEMS -----	44
	C. SUMMARY -----	61
IV.	ANALYSIS AND DISCUSSION -----	62
	A. INTRODUCTION -----	62
	B. CURRENT TREND IN CONTRACTOR CLAIMS -----	64
	C. CURRENT CONTRACTING METHODS -----	66
	D. CLAIMS AVOIDANCE TECHNIQUES -----	68

E.	PROPOSED CONTRACTING METHODS AND MANAGEMENT TECHNIQUES TO AVOID CONTRACTOR CLAIMS -----	71
F.	OBSTACLES TO IMPLEMENTATION OF PROPOSED CONTRACTING METHODS AND MANAGEMENT PRACTICES -----	78
G.	SUMMARY -----	81
V.	CONCLUSIONS AND RECOMMENDATIONS -----	82
A.	SUMMARY -----	82
B.	CONCLUSIONS -----	83
C.	RECOMMENDATIONS -----	90
D.	REVIEW OF RESEARCH QUESTIONS -----	97
E.	AREAS FOR FURTHER STUDY -----	101
APPENDIX A:	MILESTONES FOR PLANNING PRIVATE SHIPYARD OVERHAULS AND SELECTED RESTRICTED AVAILABILITIES -----	102
APPENDIX B:	LIST OF ACRONYMS AND ABBREVIATIONS -----	110
APPENDIX C:	LIST OF INTERVIEWEES -----	112
	LIST OF REFERENCES -----	115
	INITIAL DISTRIBUTION LIST -----	119

I. INTRODUCTION

The major contracting initiative of the 1980's is competition. Its effect as the central theme in Government acquisition has been a significant factor in reducing acquisition cost. However in highly competitive industries, such as ship repair and overhaul, full and open competition has had mixed results.

The ship repair and overhaul industry of the United States is almost wholly dependent on the Navy's repair and overhaul programs for its continued existence. The lack of repair and overhaul programs to support the industrial base coupled with the Navy's contracting practice of awarding firm fixed-price contracts to the lowest responsible bidder, has created an extremely competitive environment. This cut-throat competition has resulted in very optimistic and often unrealistic contractor bids (buy-ins) [Ref. 1:pp. 13-14]. Contractor buy-ins usually result in an attempt to recover cost and make a profit through contract changes and requests for equitable adjustment. The inability in this situation to obtain a favorable settlement usually results in a claim against the Government.

Claims and disputes are both time consuming and costly. There are usually no real winners despite the nature of the settlement. In addition to the adverse relationship that

usually develops between the contractor and the Government, the vessel undergoing repair may be delayed in its return to the operational fleet. As the size of the fleet approaches the 600 ship goal and the Navy's Homeporting Initiatives disperse the fleet along America's coastline, the number of contractors competing for ship repair and overhaul contracts will increase. This increased workload will further impact the Naval Sea Systems Command's efforts to prevent contractor buy-ins and avoid claims and disputes in the future.

A. FOCUS OF RESEARCH

This study will focus on ship repair and overhaul claims and claims avoidance techniques. It will examine the current trend in ship repair and overhaul claims. An analysis of current contracting methods and management practices will be made to determine their effect on claims and claims avoidance. Critical industry economic factors and business practices will be evaluated in an attempt to determine the motivation for contractor claims. The results of this study will be the presentation of those contracting and management techniques and procedures which are most effective in reducing contractor claims. Further, the researcher will explore the feasibility of developing new claims avoidance techniques.

B. OBJECTIVES OF THE RESEARCH

The basic purpose of this research is to identify the contracting methods and managerial practices most effective in claims avoidance without incurring additional cost or risk to the Government or sacrificing competition. This will provide Naval Sea Systems Command managerial and contracting personnel with a model of contracting methods and managerial practices which will reduce and avoid contractor claims in ship repair and overhaul procurement.

C. RESEARCH QUESTIONS

1. Primary Research Question

What are the contracting and management techniques and procedures that can be employed to reduce to avoid contractor claims in the ship repair and overhaul industry and how might such claims be avoided in the future?

2. Subsidiary Questions

1. What are the current bases of ship repair and overhaul claims?
2. What are the current principal contracting areas in ship repair and overhaul that contribute to contractor claims?
3. How have the recent Congressional and DOD initiatives to reduce cost through full and open competition affected ship repair and overhaul claims?
4. What effect have socio-economic initiatives had on the ability of the Contracting Officer to eliminate irresponsible bid proposals from Section 8(a) Small Business contractors?

5. What are the effects of current critical economic factors on the ship repair and overhaul industry and what effect have they had on the industry's ability to perform?
6. What are the effects of the current "NAVSEA Anti-Buy-In" initiatives as a claims avoidance technique?
7. Can ship repair and overhaul acquisition be modeled to reduce and avoid claims and disputes?

D. RESEARCH METHODOLOGY

The research data were collected by means of literature search, and telephone and personal interviews. The background of this study was developed through the literature search and interviews. Telephone and personal interviews were conducted with selected ship repair and overhaul contractors and key Naval Sea Systems Command headquarters and field level personnel.

Interviews were held on a non-attributable basis to aid in obtaining honest and candid answers. Telephone and personal interviews were extremely important in obtaining industry's viewpoint on Government contracting methods and management techniques.

The literature review included several contracting periodicals. Government Accounting Office (GAO) and Naval Audit Service reports, Magazine and newspaper articles, Defense Logistics Studies Information Exchange studies, Naval Postgraduate School Masters of Science theses, significant speeches of Government and contractor personnel, and DOD and Navy instructions. The literature reviewed

supported the established bases for claims and the opinions of the majority of personnel interviewed.

Interviews were conducted with Government and contractor personnel involved in ship repair and overhaul acquisition. The purposes of these interviews were to obtain expert opinions of current claims issues and problems, and suggestions for contracting methods and management techniques to avoid or reduce future claims. The majority of interviews were with U.S. Navy personnel engaged in ship repair acquisition, claims settlements, and claims avoidance. Large and small business ship repair and overhaul contractors from all regions of the country were interviewed to obtain a composite industry perspective.

The interviews were structured around the primary and subsidiary thesis research questions. The questions were modified when interviewing contractor personnel. A final catch-all question was asked to invite comment on any additional information the interviewee considered pertinent.

E. SCOPE, LIMITATIONS, AND ASSUMPTIONS

The thesis will discuss, analyze and evaluate the current trend in ship repair and overhaul claims and claims avoidance techniques. Additionally, it will evaluate the impact of "Naval Sea System Commands Anti-Buy-In" initiatives, the increased utilization of firm fixed-priced contracts, socio-economic objectives, and competition. The researcher will explore the contracting techniques and

management practices currently used in ship repair and overhaul procurement, and will recommend possible contract methods and types and management practices that can be utilized by the Naval Sea Systems Command (NAVSEA) to reduce and avoid claims and disputes in ship repair and overhaul procurement.

This study is limited to the analysis of ship repair and overhaul claims and claims avoidance techniques. It is intended to identify the contracting methods and managerial practices most effective in avoiding future contractor claims.

It is assumed that the reader is familiar with standard Department of Defense acquisition concepts and terminology.

F. ORGANIZATION OF THE STUDY

This thesis is organized into five chapters. Chapter II provides a background and framework of the Navy ship repair and overhaul organization, a definition of contractor claims and the disputes process, and the basic reasons for claims in ship repair and overhaul. A review of critical claims issues and problems is provided in Chapter III.

Chapter IV is an analysis of the current trend in ship repair and overhaul claims and the effect of claims avoidance techniques. It also discusses the implications and consequences of proposed contracting methods and management practices, and the obstacles to their

implementation. Finally, Chapter V provides conclusions, recommendations, and areas for further research.

II. BACKGROUND AND FRAMEWORK

A. INTRODUCTION

The United States of America is a sea-going nation with global security commitments. As a democratic society with a capitalistic economy, we endorse open international trade. Our overall economic health is dependent on the uninhibited access to international markets through the shipping lanes of the high seas. A strong and vigilant Naval Force is required to ensure free access to the shipping lanes, defense of our shores, and the ability to project power ashore to fulfill security agreements and protect the interests of the United States abroad.

The importance of a strong and vigilant fleet has been essential to the security of the nation throughout our history. The current buildup of the fleet resulted from a 1976 National Security Council Review of U.S. Maritime Strategy and Naval Force requirements for the 1980's and 1990's. The review, initiated by President Ford, indicated that an active fleet of 600 ships was required to carry out the Navy's role of ensuring wartime control of sea lanes and protection of peacetime maritime commerce [Ref 2:pp. 31-32].

The shipbuilding and ship repair industry of the United States has more than adequate capacity and capability to accomplish the past, present, and planned programs of the

Navy. The almost non-existent and declining merchant shipbuilding and repair by U.S. shipyards has made the industry almost totally dependent on the Navy for survival [Ref. 3:p. i]. This excess capacity coupled with Navy and Department of Defense contracting initiatives to ensure the acquisition and maintenance of the 600 ship fleet in the most cost efficient manner has created two major problems: 1) the impact on national security of the erosion of the shipyard and supplier mobilization industrial base, and 2) the increase in contractor requests for equitable adjustment and claims against the Government as a method to compensate for cost overruns due to unrealistic bids (buy-ins) [Ref. 1:p. 13]. This thesis will focus on the second issue of contractor claims against the Government on ship repair and overhaul contracts. The researcher will analyze and evaluate current claims and claims avoidance techniques in order to identify contracting methods and managements practices to reduce or avoid claims and disputes.

The complexity of ship repair contracts, the large number of people involved in the contracting process, and the standardized statement of work requirements (i.e., open and inspect items) guarantee contract changes will be required. The Master Ship Repair and Alteration Contract (commonly referred to as the Master Ship Repair (MSR) contract) is an agreement between the Government and a contractor certified to perform ship repair work on Navy

ships. The MSR contract states the terms and conditions in effect should the contractor be awarded a job order for repair work at a later date. Although the job order or contract is awarded through sealed bidding or competitive proposals, the contractor is thoroughly familiar with the provisions of the contract and the resources and operating procedures of the local Supervisor of Shipbuilding, Conversion, and Repair (SUPSHIP) assigned to administer the contract. SUPSHIP Contracting Officers and claims avoidance officials contend this relationship serves the contractor well in negotiating changes and initiating requests for equitable adjustment and claims.

B. NAVY SHIP REPAIR AND OVERHAUL ORGANIZATION

Before analyzing the details of ship repair and overhaul claims and claims avoidance techniques, a brief examination of the repair organization is important to establish the framework of the operation. The ultimate responsibility for the maintenance and repair of the U.S. Naval Fleet belongs to the Chief of Naval Operations (CNO). He is responsible to the Secretary of the Navy for fleet readiness, utilization, and logistic support both in war and peacetime. Additionally, he formulates strategic plans to carry out the missions assigned by the Secretary of Defense. In this capacity the CNO issues broad logistic requirements to the system commands (SYSCOMS) and Fleet Commanders for further implementation and procurement. Specifically, he justifies

and supports request to Congress for the funds required to carry out the ship repair and overhaul program.

The CNO approves the annual overhaul schedules for all fleet ships as recommended by NAVSEA and the Commanders of the Atlantic and Pacific Fleets. He also approves all overhaul schedules established by the District Commanders and the Officers-In-Charge of Naval Inactive Ship Maintenance Facilities for ships under their cognizance. Finally, he is the ultimate approval authority for alterations which affect the military characteristics of ships. CNO has delegated to the Type Commanders (TYCOMS) authority to assign Restricted Availabilities (RAVs) and Technical Availabilities (TAVs) for ships under their cognizance. The SUPSHIP should request extensions of availability from the authorities granting the original availability via the chain of command and from the SYSCOMS for alterations under their cognizance. [Ref. 4:pp. 107-108]

The Commander, Naval Sea Systems Command (COMNAVSEA-SYSCOM) is responsible to the CNO for the:

. . . research, development, logistic planning, test, technical evaluation, acquisition, procurement, contracting, production, construction, manufacture, inspection, fitting out, supply maintenance, alteration, conversion, repair, overhaul, modification, inventory management, and advance base outfitting of naval material for which he is assigned responsibility. [Ref 4:p. 109]

The mission of NAVSEA is to provide material support to the Navy and Marine Corps for ships and crafts, the shipboard weapon systems and components thereof, ammunition, guided missiles, mines, torpedoes and all other surface and underwater ordnance. COMNAVSEASYSCOM acts as coordinator of shipbuilding, conversion and repair for the Navy Establishment and the Departments of Defense and Commerce.

In this capacity NAVSEA provides authority to carry out the functions of procurement and contract administration for ship repair and overhaul to the Office of Ship Repair,

Overhaul and Conversion. This coordinator of this office directs the actions of local field activities in carrying out this function. The local Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) is a procurement office for the placement of the MSR contract, and award of job orders within the framework of the MSR. SUPSHIP also administers these contracts and job orders. It performs all of the contract administration functions listed in the FAR to the extent applicable to MSR contracts and job orders and to other contracts assigned at commercial shipyards under its cognizance [Ref. 4:p. 105].

1. The Master Ship Repair Contract

The purpose of the Master Ship Repair Contract for repair and alteration of vessels is to establish, in advance, the terms and conditions under which the contractor will perform. The use of the MSR contract procedures expedites awards of job orders for repair work, reduces administrative efforts and costs, and provides contractors the opportunity to bid on, and perform repair work under uniform and consistent terms and conditions. The MSR contract is not a guarantee of work, an entitlement to future awards, or a certification of the contractor's ability to perform every possible repair job. Job orders are awarded on a competitive basis through sealed bids or competitive proposals.

A contractor wishing to obtain an MSR contract must submit a request for award to the local SUPSHIP. The SUPSHIP Administrative Contracting Officer (ACO) determines whether to award or deny the MSR contract based on the results of a pre-award survey of the contractor's facilities. This survey is conducted by a team of qualified SUPSHIP professionals with the necessary industrial experience to make a sound appraisal of the contractor's management, labor and facilities.

The basic criteria for qualification is listed in the DAR [Ref. 5:para. 1-902, 1-903], supplemented by criteria particularly applicable to ship repair yards as described below [Ref 4:pp. 405-409]:

1. Satisfactory management, engineering, and technical personnel
2. Satisfactory administrative control over current operations
3. Adequate facilities
4. Satisfactory financial condition
5. Absence of zoning restrictions
6. Prior experience
7. Adequate facilities for accommodating personnel of the ship
8. Adequate facilities for providing standard service to the ship
9. Quality Assurance
10. Adequate health and safety practices, and fire protection

11. Guard service
12. Equal opportunity.

The MSR contract cannot be utilized to purchase material or work that is not a part of the Ship Alteration and Repair package (SARP). Other areas where the use of the MSR contract is prohibited are [Ref. 4:p. 401]:

1. Towing and stevedoring when not included in the job order for repair of the vessel
2. Procurement of material and cost of packaging, crating or shipping material when not included in the job order for repair of the vessel
3. Utility services when not incidental to the repair of the vessel
4. Personal services
5. Repairs to material in store
6. Manufacturing when not part of a ship work job order
7. Design work when not part of a ship work job order.

Modification of any of the clauses of the MSR contract requires the approval of the NAVSEA Deputy Commander for Contracts [Ref. 4:p. 402]. This restriction on modification ensures the consistency and uniformity of MSR contracting procedures. However, the local SUPSHIP can recommend any changes or modifications to NAVSEA which will improve the administration of job orders. Appendix A lists the standard MSR contract clauses.

The MSR contract is revised periodically to incorporate any changes in the statutes and procurement regulations. Once changes are made, all outstanding MSR

contracts are cancelled and replaced by the updated version. The MSR contract is not transferable. If a repair facility is sold or ownership changes, the MSR contract is cancelled.

Clause 32 of the MSR contract provides that "either of the parties shall have the right to cancel the contract by giving the other party notice thereof". NAVSEA policy dictates consideration of MSR contract cancellation for any one of the following reasons [Ref 4:pp. 410-411]:

1. Bankruptcy
2. Change of firm's name, management, or owner
3. Default under a job order
4. Inclusion in Joint Consolidated List of Debarred, Ineligible and Suspended Contractors as outlined in section I, part 6 of the DAR
5. Removal or sale of facilities
6. Revision of DD DAR Form 731
7. No longer meets the standards for award of the MSR contract.

2. Planning for Overhaul and Repair

Effective planning is the key element in achieving a successful overhaul at a reasonable price. Inefficient planning can result in poorly defined work items, a reliance on contingencies in the contractor's proposal, improper work accomplishment and interpretation of specifications, disputes, and unrealistic cost estimates and bids. The accuracy of job order work items and cost estimates cannot be over emphasized. The SUPSHIP ACO relies heavily on the cost estimates in the evaluation of bids or proposals

received for the proposed work. Additionally, for the SUPSHIP inspection personnel to insist on adequate standards of workmanship by certain contractors, they must be able to refer to clear and detailed work items.

NAVSEA proposes overhaul schedules which include three fiscal years [Ref. 6:p. 1]. The proposed schedules are forwarded to the Fleet and Type Commanders (TYCOMs) for review and comment. The revised schedules are then forwarded to the CNO for final review and publication. The first year's schedule is for execution and the second and third year schedules are used for planning and budgeting purposes.

Upon receipt of the schedules, the SUPSHIP begins the scheduling action. It is essential that the SUPSHIP planning milestones are accomplished in a timely manner to permit maximum leadtime for ordering material and the prefabrication of work by the contractor. At approximately A-500, (500 days prior to the commencement of the overhaul), A-540 for selected overhauls, the SUPSHIP sends a letter of information to the ship. One of the most important aspects of this letter is the confirmation of the overhaul date.

Basically there are three major functions to be performed in planning for a ship overhaul or repair action:

1. Planning Coordination. Planning coordination involves the coordination of the SUPSHIP's external and internal planning activities. External activities include: ensuring ship availability, receipt of work request and alteration authorization, scheduling the SUPSHIP planning and bidders' inspections, ensuring

adequate funds are available, coordinating the activities of the ship and the Type Commander, and other similar functions. Internal activities include: the distribution of work requirements, assembly and review of final work items including cost estimates, coordinating requests for drawings, technical information, Government Furnished Material (GFM), and design and other services.

2. Job Planning. The major portion of SUPSHIP planning is carried out by the job planners. They receive, evaluate, and prepare preliminary estimates for work request and alteration documents; conduct ship planning inspections; initiate requests for drawings, GFM, technical information, and required services; and prepare job order work items and cost estimates for assigned work items within their trade cognizance.
3. Support Functions. Support functions include such activities as the typing and reproduction of job order work items; design services; the reproduction of drawings for distribution to prospective contractors; planning and estimating; and obtaining the GFM required for the overhaul or repair.

The Planning and Engineering for Repair and Alterations (PERA) offices located at each naval shipyard are an extension of NAVSEA's Ship Logistic Division. They develop the overhaul and repair packages for ships on the repair schedule. After conducting pre-overhaul tests and inspections, PERA prepares the ship alteration and repair package (SARP) and submits it to the SUPSHIP for cost estimating. The SARP is the basic screening document for repair. It determines if the work will be accomplished by the ship's force, an intermediate maintenance activity (IMA), or the shipyard.

Upon completion of the test and inspections, work packages, and cost estimates; an invitation for bids (IFB) or request for proposals (RFP) is sent out to repair

activities which have the capability to perform the required work. Work packages are often split to reduce the scope of the work and obtain maximum competition. Under this concept, the drydocking and topside work packages may be split to create individual lots for bids. After the bidders conference and bid opening, an award is made. This award is most often for a firm fixed-priced contract awarded to the lowest responsive and responsible bidder. The ship is now ready to undergo repair. Appendix B outlines the milestones for planning private shipyard overhauls and selected restricted availabilities.

The milestones or target dates established by NAVSEA for the completion of the specification package and contract award for the different types of repair actions are [Ref. 4:pp. 241, 2-B3]:

<u>Scope of Work</u>	<u>Submit Screened Work Request</u>	<u>Award Notification</u>
Regular Overhaul	A-150	A-60
Selected Overhaul	A-180	A-90
Nonemergent RAV's (mandays)		
- Greater Than 8,000	A-140	A-30
- 8,000-4,000	A-140	A-30
- 4,000-800	A-100	A-14
- 800-400	A-40	A-10
- Less Than 400	A-30	A-7

Occasionally ship repairs of an emergency nature occur which cannot be delayed to the next scheduled overhaul or availability. This work may be accomplished as an RAV or TAV, or as an emergency voyage repair as specified by the cognizance Type Commander. While some nonscheduled requirements can be handled in the same manner as scheduled repairs, others cannot and present a severe planning problem for the SUPSHIP. Often job planners will not have the opportunity to conduct planning inspections of the ship. In this case they will have to prepare the work items solely on the ship's work request or the description of the work in messages submitted by the ship.

The planning officer should work closely with the ACO to determine the appropriate method of procurement. Although the Contracting Officer has final responsibility for determining the method of procurement, he must be advised of the time required to conduct repairs, the technical nature of the work, and other unique requirements.

C. THE DISPUTES AND CLAIMS PROCESS

The Contract Disputes Act of 1978 provides the framework for submission and resolution of ship repair and overhaul claims. Prior to its passage, Government contracts contained disputes clauses which provided a three-tiered process the parties must follow to resolve a controversy: 1) the decision of the Contracting Officer, 2) an appeal to the head of the agency, ruled on by that agency's board of

contract appeals, and 3) a limited review by a court [Ref. 7:p. 1]. This was accepted by the contractors as an efficient and inexpensive way of resolving controversies, despite the appearance of Government control of the process. [Ref. 7:p. 1]

The Contract Disputes Act of 1978 implemented significant changes in the method for resolution and disposition of controversies and disputes. Before discussing the significant features of the Act and comparing them to the old disputes procedures, definitions of requests for equitable adjustment and claims are appropriate.

A "Request for Equitable Adjustment" (REA) is a routine request by the contractor for monetary payment, extension of the delivery schedule, or both. The form of the REA is dependent on the provisions of the contract, such as the payments or economic price adjustment clauses. An REA is not a dispute at the time of receipt by the Government. [Ref. 8:p. 1]

A "Claim" is a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that

provides for the relief sought by the claimant. [Ref. 9:p. 945]

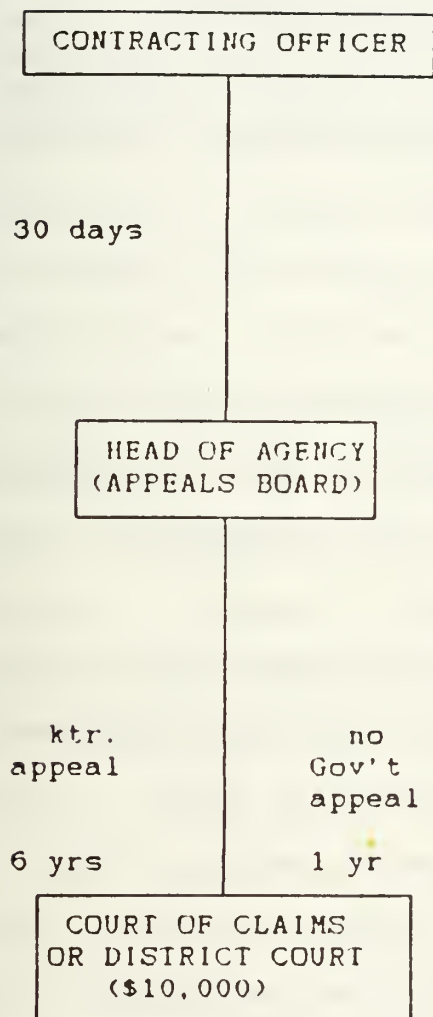
The Contracts Disputes Act expanded the scope of the procedures under Government contracts for administrative resolution of certain controversies connected with the contract (Figure 2-1 compares the old and new procedures). The Act requires a contracting officer's final decision (COFD) on all claims by the contractor against the Government relating to the contract. The particular type of claims covered by the Act include [Ref. 7:pp. 45-54]:

1. Breach of contract
2. Mistakes
3. Public Law 85-804 request for relief
4. Claims for non-monetary relief
5. Contract award controversies
6. Tort claims
7. Subcontractor claims.

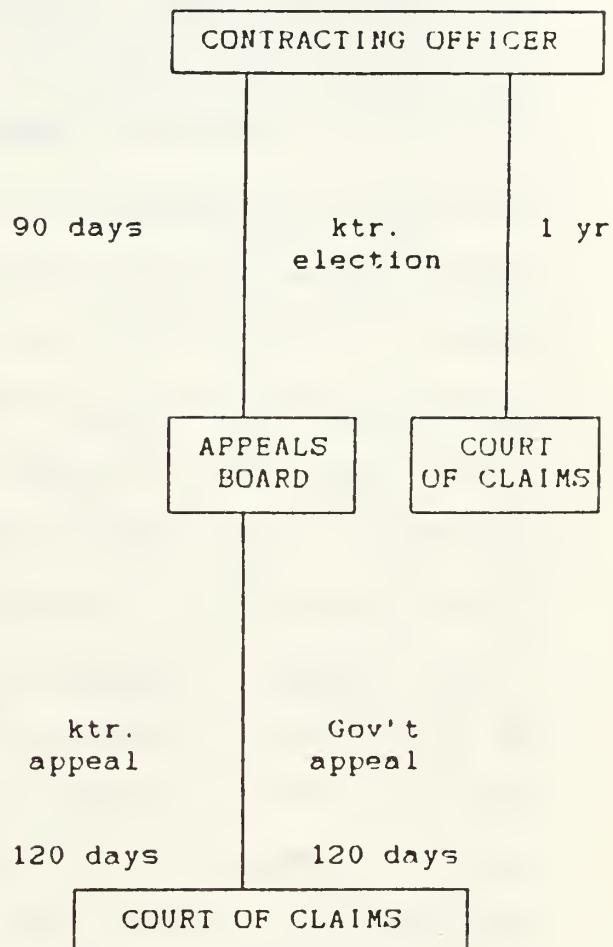
The significant features of the Act are [Ref. 7:p. 14]:

1. The Act makes the Court of Claims the sole court with the authority to hear claims under the disputes procedures.
2. The Act gives the contractor "direct access" to the Court of Claims in lieu of the agency board of appeals if they elect a trial in that court.
3. It gives the Court of Claims the power to retain a case where it finds error by a board and to conduct such a trial as necessary to dispose of the case.
4. The Act broadens the coverage of the disputes procedures to include all claims relating to the contract.

OLD PROCEDURE



NEW PROCEDURE



Source: Cibinic and Nash, Government Contract Claims

Figure 2-1 The Disputes Process

5. The Act provides for Government appeal of a board decision to the Court of Claims, by the agency head with the approval of the Attorney General.
6. The act provides for initial appeal to the Contracting Officer.
7. Establishes the independence of the agencies.

A contractor's initial request for relief, due to a change in the terms and conditions of the original contract, usually do not constitute a claim. The request is usually a request for an equitable adjustment, and does not request or require a Contracting Officer's final decision. As is often the case, negotiations between the Government's Contracting Officer and the contractor are entered into, to attain agreement on the request submitted by the contractor, if it is not acceptable in its original form.

The changes clause in all Government contracts requires the contractor to submit a request for equitable adjustment within 30 days of receipt of a written change order. In the case of a constructive change, he is obligated to protest to the Contracting Officer that, in his opinion, such a change has occurred, or secure an order in writing before doing the work. [Ref. 9:pp. 358, 360-361]

The contractors request for equitable adjustment converts to a claim against the Government when he subsequently requests the Contracting Officer to issue a final decision on the matter. In order for the claim to be valid it must be in writing, and if the payment requested is in excess of \$50,000, the contractor must certify the claim.

The following certificate (signed by a senior company official) is used to accomplish the certification [Ref. 7:p. 69]:

I certify that this claim is made in good faith, that the supporting data are accurate and complete to the best of my knowledge and belief; and that the amount requested accurately reflects the contract adjustment for which (the contractor) believes the Government is liable.

(Official's Name)

(Title)

An improper certification due to fraud or misrepresentation of facts may subject the contractor to civil liability under the False Claims Act. This Act imposes a modest \$2,000 forfeiture, but permits the Government to recover "double the amount of damages which the United States may have sustained by reason of doing or committing such an act" [Ref. 7:p. 126].

Upon receipt of a request for a final decision on a valid claim, the Contracting Officer has 60 days to issue a final decision for claims under \$50,000. For claims in excess of \$50,000 the Contracting Officer shall issue a decision in 60 days or notify the contractor of the "reasonable" time within which a decision will be issued [Ref. 7:p. 6].

Upon receipt of the Contracting Officer's final decision, the contractor has the following options [Ref. 9:p. 949]:

1. Accept the decision
2. Re-enter negotiations with the Government to settle the claim
3. Appeal the decision to the Armed Services Board of Contract Appeals (ASBCA) within 90 days
4. Appeal the decision to the U. S. Court of Claims within 12 months.

The ruling of the ASBCA or the Court of Claims can be appealed by the contractor or the Government (agency head with the approval of the Attorney General) to the Court of Appeals for the Federal Circuit.

An accelerated procedure for the resolution of claims under \$50,000 can be exercised at the option of the contractor. The claim is submitted to the ASBCA and the decision rendered is not appealable. Appeals under the accelerated procedure shall be resolved, whenever possible within 180 days from the date the contractor elects to utilize the procedure [Ref. 7:p. 198].

D. BASES FOR SHIP REPAIR AND OVERHAUL CLAIMS

The primary bases for ship repair and overhaul contractor claims are: 1) changes to the contract, 2) late or defective Government Furnished Equipment (GFE) and Government Furnished Information (GFI), 3) economic and contractual causes, 4) complex causes and effects, and 5) other miscellaneous causes of claims [Ref. 10:pp. 5-14]. Awareness of the situations in which claims are most likely to arise by both the contractor and the Government, will

enable them to recognize and avoid potential claims in all phases of the contractual relationship. It will also better prepare them to recognize and document significant events which contribute to the creation of claims. This will enable both parties to negotiate more equitably and efficiently in claims settlement procedures.

1. Changes

Changes are a common aspect of ship repair and overhaul contracts and, in most cases, are essential to ensure satisfactory repairs are attained. The complexity and general nature of ship repair contracts make changes necessary and beneficial to: 1) correct deficiencies, 2) satisfy changes in operational and logistic support requirements, 3) effect substantial life cycle cost savings, and 4) prevent or allow desired slippage in an approved schedule [Ref. 11:p. 5.2.12-2].

A change order under a Government contract is a unique entity. It is a written order signed by the Contracting Officer without the consent of the contractor, directing the contractor to make "within scope" changes in accordance with the Changes clause of the contract. [Ref. 12:p. 2] The Changes clause, a unique aspect of all Government contracts, empowers the Contracting Officer to make unilateral changes or modification to the contract without any consent or consideration of the contractor or his point of view [Ref. 9:pp. 282-286].

Navy policy dictates an adjustment to the price or schedule of the contract be made through negotiations as soon as possible so that the change order can be finalized by a bilateral modification. Claims arise when an agreement cannot be reached and the contractor alleges that the compensation offered by the Government is insufficient to cover the injury or harm he has suffered due to the impact of the change. Additionally, contractors often allege that there were unforeseeable costs associated with implementing a particular change or that numerous changes resulted in a cumulative impact beyond the impact of the local change. Rather than pursue the negotiation process, the contractor submits a claim for whatever costs and schedule changes he feels are adequate [Ref. 10:p. 6].

A change order, whether formal or constructive, may be outside the original scope of the contract. This type of change is a breach of contract and is referred to as a Cardinal Change. The scope of the contract may be exceeded by the effect of one change or the cumulative effect of several changes. The contractor has the responsibility to inform the Government of changes it considers to be outside the scope of the original contract [Ref. 9:p. 357]. However, it is often difficult to determine or agree on the original scope of the contract during execution, especially in the aftermath of several small changes.

2. Late or Defective GFE and GFI

Government furnished equipment and information are the equipment and data the Government contractually agrees to provide the contractor. The complexity of Navy ships requires the Navy to furnish the contractor detailed drawings of a ship's design and equipment including: information as to the equipment installed, equipment and system testing requirements, maintenance procedures, power requirements, form fit and function, and other similar items. Most of the data are required to support the GFE and are essential to successful completion of the repair effort. The contractor relies extensively on this in developing estimates and workload schedules required to proceed in accordance with the terms and conditions of the contract.

The listings of GFE (schedule "A" to the contract) and GFI (schedule "B") are provided to the contractor prior to contract award. These listings delineate what equipment and information the contractor should anticipate receiving along with the dates the equipment and data will be supplied. The contractor develops his repair and delivery schedules with the assumption that all Government Furnished Material will arrive on time and be technically correct and in proper working order [Ref 13:p. 27].

Often a portion of the equipment or data provided is late, incorrect or defective. This in effect constitutes a

constructive change and is a major contributor to ship repair and overhaul contractor claims.

3. Economic and Contractual Causes

The basic goals and motivations of a business concern are: 1) survive as a business entity, 2) realize an economic profit, 3) maximize profits or the net worth of the stockholders, and 4) establish a reputation as a good citizen within the community [Ref. 14:p. 15]. The current economic status of the United States' shipbuilding and repair industry can be described as one where supply significantly exceeds demand. The industry is dominated by one customer, the United States Navy [Ref. 15:p. 37].

The majority of the firms in the ship repair and overhaul aspects of the industry are operating in an environment which reflects the first two goals of a firm, survival and profit realization [Ref 15:p. 37]. This is an extremely competitive environment which forces the contractors to be both efficient and very aggressive in its response to requests for bids or proposals. Often bids are submitted with very low, and even zero profit margins. These bids are submitted with the remote hope or belief that the repair effort will proceed as planned, or all deviations will be in favor of the contractor [Ref. 10:p. 12].

Occasionally a contractor submits a bid which is unrealistic (below the contractor's cost to perform). This tactic is often consistent with the first goal of a business

concern, survival. Additionally, since the contractor is aware of the Government's necessity for contract changes, there is always the opportunity to improve its profit and loss posture through sole source change negotiations [Ref. 11:p. 3].

In each case, once awarded the contract, there is the strong desire to realize a profit despite low-ball bids, outright buy-ins, or poor management of the repair effort. When faced with the possibility of substantial losses on a contract, claims are generated for any actions or inactions of the Government the contractor believes will substantiate the claim [Ref, 10:p. 10].

The competitive environment of the ship repair and overhaul industry is further impacted by the Navy's goal of procuring repair and overhaul services at the lowest possible cost and risk to the Government. The Navy's vehicles for attaining these goals are competitive bids, and the almost exclusive use of fixed-price contracts despite the business risk or complexity of the repair effort [Ref. 16:p. 9]. The competitive environment and the monopsony status of the Navy as a customer affords the contractor little or no leverage in determining contract type [Ref. 17:p. 48].

There are situations where the fixed-price contracts require the contractor to accept more than his fair share of the cost, schedule, and performance risks. The competitive

environment of the industry prevents the contractor from pricing contingencies into the contract proposal to insulate it against these business risks. Upon receipt of the contract in high risk situations, the contractor will attempt to avoid losses by pricing contingencies in change proposals, failing to negotiate changes in a timely manner, or attempt to recover losses through an omnibus claim at the end of contract performance [Ref. 18:p. 3].

4. Complex Cause and Effect Relationship

The most significant aspect of claims allegations encompasses claims of delay and disruption. Almost every change or modification to the contract involves delay and disruption in some manner. In a contract delay and disruption claim, the contractor generally alleges that Government actions or inactions give rise to a cumulative, magnified program impact, causing additional work, disruptive inefficiencies, stretchout or delay of production, and additional costs. "Program delay and disruption are normally by far the largest claim elements in dollar value, averaging over 50% of total dollars claimed." [Ref. 10:p. 9]

The contractor alleges the cross-impact of additional changes and the acceleration of work by the Government creates a cumulative effect on the contract which cannot be quantified at the time the change takes effect. Under this concept, the inefficiencies of overtime and the

synergistic cause-effect relationship of cumulative changes on delay and disruption cannot be established in the price of each individual change. The logic of this cumulative cause-effect relationship is often utilized as the basis of claims against the Government [Ref. 19:p. 4].

5. Other Causes of Claims

There are several other less prominent causes of contractor claims in ship repair and overhaul. They include delay and disruption due to acts of God; labor disturbances; acts of the Government in its sovereign capacity; and the inability of the SUPSHIP to promptly clarify controversial issues or ambiguous specifications, provide additional drawings and information, analyze requests for equitable adjustment, negotiate changes, and adjudicate initial claims due to inadequate staffing and personnel skills [Ref. 10:p. 13].

An adverse business relationship between the contractor and the SUPSHIP can have a very negative impact on the resolution of disputes. To be effective in the execution and administration of the contract and at the negotiation table, a degree of trust must be established. The entitlement of the contractor must be recognized. The goal of the Contracting Officer and the contractor should be to obtain a fair and reasonable price for the work performed. The Contracting Officer should establish a business relationship which conveys to the contractor that

the Government is always willing to negotiate in good faith, but will not compensate him for bad judgement and poor management decisions. The absence of such a relationship will encourage the contractor to seek resolution of his disputes in another forum (as a claim with the ASBCA or Court of Claims), due to his conviction that he will not be treated equitably by the local SUPSHIP [Ref. 5:para. 3-801].

E. CRITICAL ASPECTS OF THE SHIP REPAIR AND OVERHAUL INDUSTRY

The shipbuilding and repair industry of the United States is plagued by an excess of capacity and capability, intense competition, a lack of commercial orders, a lack of a commitment on behalf of the Government to maintain the present industrial base, and a less than optimistic outlook for the future [Ref. 1:pp. 1-2].

The effect of the factors in the previous paragraph results in a continuous reduction in the industrial base and a migration of skilled ship repair and construction workers to other sectors of the economy [Ref. 20:p. 1]. It has created an extremely competitive environment in which adverse business relationships exist between contractors and the Government. The majority of the firms engaged in repair and overhaul are in a survival mode. This competitive and somewhat dismal economic environment is a primary reason for the generation of contractor claims due to the submission of

unrealistic bids in an attempt to maintain a business base [Ref. 21:pp. 141].

In his January 1986 Report on the Industrial Base for the Construction, Overhaul and Repair of Naval Vessels to the U. S. Congress Armed Services Committee, Navy Secretary, John Lehman characterized the industrial base as follows [Ref. 1:pp. 13-14]:

Lack of commercial orders and an inability to compete price wise in the international market has made the shipbuilding and repair industry virtually completely dependent upon naval ship work. As a result, competition for naval ship work is more intense and more yards are involved in Navy business. The number of firms involved in navy construction of vessels over 400 feet in length increased from eight to seventeen between 1974 and 1984.

Entry of new firms into this industry or even movement of current firms into different areas within it is very difficult. . . .

Competition for repair work is extremely intense with only the most efficient/productive yards obtaining repair work. During the 1983-85 time period, 15 yards left the industry.

In summary, there is more capability in the shipbuilding and repair industry than there is work. Competition results in acquiring and repairing ships in the most cost efficient manner in the most productive shipyards. Competition is making the mobilization base stronger by providing the incentive to improve technology, streamline methods, and reduce labor costs in order to win business. A policy based on supporting a base would guarantee some workload for a set of "essential" yards while a policy of pure competition focuses on buying in the least expensive manner. Support of a large, dispersed mobilization base, capable of rapidly increased output, tends to require actions which run counter to encouraging competition. [Ref 1:pp. 13-14]

The number of regular overhauls continue to decline due to the increased use of the Phased Maintenance Availability (PMA) concept. This concept and the increased

maintainability of Navy ships will further reduce the repair work available to the industry [Ref. 1:p. 12].

Japan and South Korea continue to dominate the international shipbuilding and repair industry (see Figure 2-2). The inability of the U. S. Shipyards to compete in the international market is well documented. In a speech to the Society of Naval Architects and Marine Engineers in April 1984, Larry French, the Chairman and Chief Executive Officer of National Steel Shipbuilding Company highlighted the need for Government intervention to support the industry [Ref. 22:p. 492].

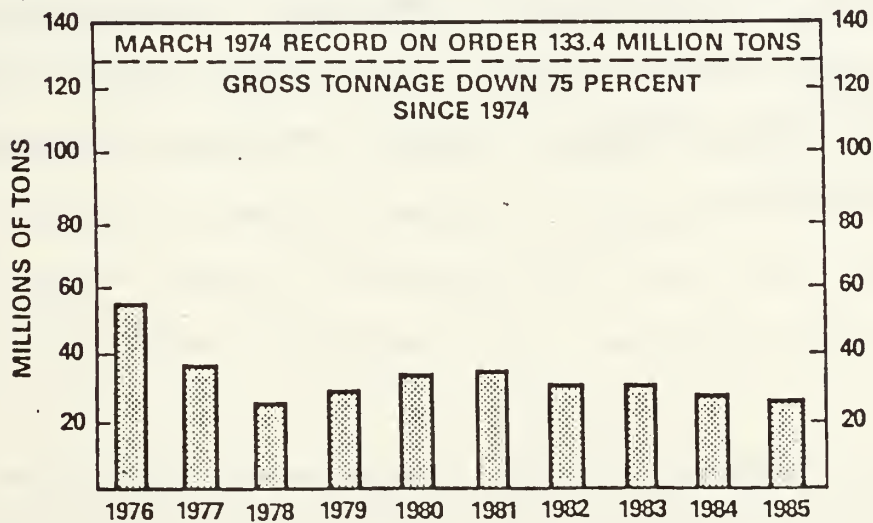
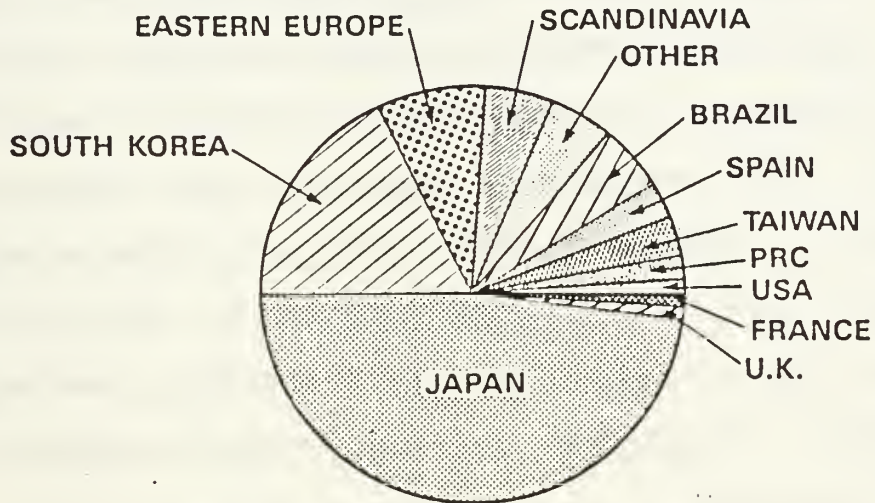
Short of positive, corrective action by the Administration and Congress to address this enduring and critical commercial shipbuilding problem, the readiness and reliability of an essential ingredient of national security will be lacking when needed, in both quantity and quality.

Both Congress and the Administration have been reluctant to subsidize the industry due to its unfavorable competitive position in the international market place and the prohibitive cost of subsidies in an era of high budget deficits and the Graham-Rudman-Hollings Deficit Reduction Act [Ref. 1:p. 37].

F. SUMMARY

Claims avoidance is difficult in any contracting environment. However, the complexity of ship repair and ship repair contracting further complicate this process. The competitive economic environment of the U.S. ship repair

WORLDWIDE MERCHANT SHIPBUILDING TONNAGE



Source: NAVSEA Code 90M

Figure 2-2 Worldwide Merchant Shipbuilding Tonnage

and overhaul industry coupled with the Navy's policy of awarding fixed-price contracts exclusively have created an adverse business relationship between the Government and many of its contractors.

Navy Ship Repair and Overhaul is conducted by is a complex group of organizations charged with the procurement of vast amounts of essential repair services. The mandate of the Coordinator of Shipbuilding, Conversion and Repair is to obtain these services at the least cost and risk to the Government. Careful planning and the presence of a pre-negotiated agreement (the MSR contract), assist in coping with the complexity of the repair process, however by its very nature this process requires frequent changes to ship repair contracts.

As the most prominent Government organization in the process and the one which is in daily contact with the contractor, the SUPSHIP is key in avoiding ship repair and overhaul claims.

III. REVIEW OF CRITICAL CLAIMS ISSUES AND PROBLEMS

A. INTRODUCTION

The bases for ship repair and overhaul claims were introduced in the previous chapter. In addition to these well documented causes of claims, this research identifies specific claims issues and problems. Despite the expense, time and effort the Navy spent in settling the enormous shipbuilding claims of the 1970's, the lessons learned have still not been fully realized. Although the Navy has not had a major shipbuilding claim in almost a decade, ship repair and overhaul continues to be plagued by claims and disputes. This researcher noted that the current underlying reasons for claims in ship repair and overhaul are similar to those for shipbuilding in the 1970's. This is evident in Rear Admiral Hopkins', Former Deputy Commander For Contracts, NAVSEA, opening remarks to students of a Claims Lessons Learned Seminar conducted by the Navy Logistic Management School on 13 October 1978. He stated that [Ref. 23:p. 3]:

In the early and mid-sixties, the shipbuilding industry was confronted by a changing economic environment that was accompanied by a change in the Navy contracting attitude. The more significant of these changes were:

1. The Navy change from negotiated to advertised procurement.
2. Private shipyard capacities and capabilities were taxed by relatively large order quantities.

3. The bottom fell out of the labor market.
4. Procurement practices, combined with the shipbuilders' need for Navy work, tended to encourage "buy-ins" on competitive procurement.
5. Inflation significantly increased the cost of ship construction over several years between a shipyard bid and delivery of the ship.

Each of these factors contributed to unplanned expenses and operating losses. At the same time, the contractors were continuing to experience problems stemming from defective plans and specifications, late and defective GFE/GFI, and the incorporation of a multitude of Navy ship design changes.

Although the current inflation rate is relatively modest and the period of performance for repair is much shorter than construction, this comparison is genuine. In identifying the current critical claims issues and problems, the researcher gathered and reviewed recent literature and conducted personal and telephone interviews.

B. CURRENT CLAIMS ISSUES AND PROBLEMS

Although several problems and issues were surfaced, the following three issues gained consensus among interviewees and were found in the literature: 1) contract cost growth due to excessive changes; 2) the inability of the Navy to develop complete and definitive specification packages; and 3) the use of firm fixed-price contracts in a highly competitive industry when the previous two issues are applicable. The most controversial issue was the use of cumulative delay and disruption as a basis for the submission of a claim by the contractor.

1. Contract Cost Growth

Contract cost growth in ship repair and overhaul results from changes to the contract after contract award. Cost growth is a well documented occurrence present in virtually every repair effort. These changes take the form of growth or new work. Growth is a contract change within the scope of the original repair contract. Changes that do not meet this criteria are new work. New work requirements should be processed as new acquisitions, using current fiscal year funds. Growth work may be funded using funds authorized for the initial acquisition [Ref. 24:p. 7].

Cost growth is of great concern because the changes are negotiated in a sole-source environment which often places the Navy at a disadvantage. Furthermore, contract changes usually contribute to overhaul delays and are the bases for almost all claims and disputes [Ref. 25:p. 5].

GAO's analysis of contract cost growth suggests that the bulk of the problems are with the Navy's development of work packages for repairs, maintenance, and minor modifications. The analysis of 119 overhauls conducted in private shipyards from 1977 through 1981 revealed that excessive contract changes delayed overhauls an average of 64 days and resulted in cost growth over the award price of an average of 62 percent for frigates, 55% for auxiliary ships, and 29% for amphibious ships [Ref. 18:p. 9]. Figure 3-1 is germane.

<u>Ship type</u>	No. of <u>Ships</u>	Contract <u>award</u>	<u>CONTRACT</u>	<u>Growth due to</u>	
			<u>Growth</u> <u>Percent</u>	<u>Spec changes</u> <u>Percent</u>	<u>New work</u> <u>Percent</u>
(\$ millions)					
Amphibious	31	\$271.6	46	80	20
Auxiliaries	49	275.4	46	73	27
Frigates	25	230.0	56	77	23
Destroyers	<u>14</u>	<u>76.0</u>	<u>59</u>	<u>86</u>	<u>14</u>
Total	119	\$853.0	50	77	23

Source: U.S. General Accounting Office Report, B-133170

Figure 3-1 Summary of Contract Cost Growth

Interviewees from both Government and industry cited contract cost growth as possibly the most significant issue in generating contractor claims. Government personnel stated that changes provide contractors in a loss posture, due to poor management or contract buy-ins, with the opportunity to realize a profit at the expense of the Navy and the taxpayers. They utilize their advantageous negotiating position and the Navy's desire to maintain the overhaul schedule to obtain a higher than justified profit margin. Most changes are negotiated in a concurrent (while the work is in progress) or a retrospective environment. The contractor's cost and performance risks are significantly reduced because he is well aware of the scope of work required or he knows the actual cost incurred.

Contractors contend that excessive changes to the contract diminish efficiency by requiring the use of overtime and the hiring of additional workers, who are less skilled and higher on the learning curve than those workers currently on the job. In addition to employing more than the optimum number of workers on a job, less skilled personnel require a reduction in the span of supervision and increase material job rework. The administrative burden is increased to accommodate scheduling difficulties, prepare proposals and negotiate the changes. The additional administrative burden on both the Government and contractor in negotiating cost growth changes is significant. It contributes to adversity in the business relationship, complicates negotiations of REAs, and slows settlement of claims and disputes.

2. Work Package Specification Shortfalls

The Navy's inability to provide complete and accurate specification of its work packages is the most significant cause of repair changes, contract cost growth and contractor claims. GAO's analysis (see Figure 3-1) in its review of overhauls found that 77 percent of the contract cost growth in overhauls was due to work package specification shortfalls [Ref. 18:p. 9]. In an analysis of cost growth due to work package shortfalls, GAO concluded that:

. . . 82 percent of the cost was fleet funded. Therefore, regarding cost growth, the most significant problem appears to be developing work packages covering repairs and maintenance. [Ref. 18:p. 9]

The major problem with specifications is that referenced documents of specifications are often obsolete or conflicting. Specifications are either too general or too restrictive and often fail to take advantage of the technical state of the art in ship systems [Ref. 11:p. 2.1-1]. Work package development is further complicated because a large part of the repair work is not definitized until after contract award and commencement of the overhaul even though work packages are determined months in advance of the start of work. A further problem occurs when operational requirements of a given ship may require the ship check (necessary to develop the work package) be performed on a sister ship rather than the ship actually going into overhaul [Ref. 26:para. 2].

Ship repair work packages on sister ships or ships of the same type can differ significantly. A 1980 Navy study of destroyers revealed that only 50 percent of the overhaul work recurs from ship to ship. This reality is being further complicated by the complexity of the ships in the fleet today. A recent request for an equitable adjustment by a contractor conducting an overhaul of a DD-963 class destroyer highlights this point. The primary reason for the request for cost and schedule adjustment was [Ref. 27:topic 1]:

The mandatory drawing changes affect all phases of the work package including ripout, arrangement, new hardware and testing. These changes affect both the primary and secondary work path items. The 355 mandatory drawing

changes affected the crafts in that they had to reincorporate wholesale changes to all major blueprints. This voluminous efforts net effect was to bog down the production effort to a stalemate and negate the total preplanning effort. The overall schedule slippage to USS _____ can be primarily attributed to these mandatory changes.

The 355 drawing changes were submitted to the contractor shortly after contract award.

Interviewees from both Government and industry cited the specification work package as a source of frustration. Work package specifications were identified as the major generator of inspection deficiency reports (IDRs) and are featured prominently in almost all contract problem reports (CPRs). Government interviewees stated progress has been made, however, improvement is still required. Poorly written or referenced specifications often allow dual interpretation of the intent or requirement. The Government, as the specification writer, is responsible for its content in claims and disputes. Another problem is that the planning SUPSHIP which composes the specification work package often is not the same SUPSHIP which administers the overhaul. This lack of "hands-on" expertise delays responses to IDRs and impact the repair effort. Next to changes to the contract, contractors, cited the specification work package as a major source of disruption to the repair effort. General or inconsistent specifications require the submission to SUPSHIP of an IDR. Often SUPSHIPS fail to respond rapidly to the IDR, or

approval of the change must be obtained from the TYCOM or NAVSEA. These delays disrupt scheduled work and cost the contractor and the Government money. Also restrictive specifications may prevent the utilization of the best approach for methods of repair. Finally, less than adequate work package specifications degrade the quality of bids or proposals. They require additional time and talent to analyze and interpret the specifications, and additional communications with the contracting officer during the solicitation process.

3. Adverse Business Relationship

Interviews with both contractors and Government personnel highlighted the existence of an adverse relationship between the Government and its contractors. The controversy was more pronounced in certain areas. It was extremely high on the West coast, especially among the southern California contractors, and relatively mild to almost non-existent among some East and Gulf coast contractors. Most interviewees agreed the controversy centers on two issues: 1) The competitive and declining industry, and 2) The Navy's procurement policies. Contractors contend the Navy is taking unfair advantage of the industry's competitive spirit by pushing for lower costs and forcing contractors to accept stringent schedules and firm fixed-priced contracts, especially when the Navy cannot adequately define its requirements. Navy acquisition

personnel view the controversy quite differently. They maintain the Navy is exercising sound business judgement in obtaining the required repair services at the best price and lowest risk to the Government. In an attempt to protect themselves, the Navy has implemented initiatives to discourage contract buy-ins, for example unusually low bids are questioned to ensure mistakes were not made in the composition of the contractor bid.

Government personnel stated contractors will submit extremely low bids or buy-in to get the contract. Once awarded the contract, the contractor attempts to recover cost and make a profit by taking advantage of its sole-source position in negotiating changes to the contract. Contractors contend Government personnel add to the animosity of the relationship by delaying action on REAs and contractor claims. Additionally, they say the Navy is often insensitive in its exercise of control of the contract through the ability to stop work and make unilateral changes to the contract.

A GAO study concluded the atmosphere of distrust between the contracting parties may be attributable to the Navy's contracting policies [Ref. 18:p. 37]. A recent article in the Wall Street Journal (May 29, 1987), "Navy May Have Pressed Too Hard On Shipyards For Low-Cost Fleet As Expenses Keep Mounting" states the following [Ref. 17:p. 48]:

When the Reagan administration launched its ambitious plans for a 600-ship Navy, officials made a widely publicized and widely applauded, push for more competition and lower cost from the nation's shipbuilders. But as the bills came in, some of the anticipated savings may turn out to be short-lived.

Hans K. Shaeffer, Chairman of Todd Shipyards Corp. also blames the decline of the industry on the Navy procurement policies adopted by the Reagan administration.

Policies like fixed price contracts, awarding contracts to the lowest bidder, whether the bidder can deliver or not, and forcing builders to pay for the cost of retooling their plants are driving shipbuilders out of business. [Ref. 15:p. 37]

Todd Shipyard Corp. is currently facing sale or restructuring after losses stemming from two overhaul contracts and failure to win the contract to build the DDG-51 class destroyer [Ref. 17:p. 48].

4. Fragmented Navy Planning and Management System

The Navy's planning and management system for overhaul and repair is fragmented with many organizations involved in the coordination and decision making process [Ref 18:p. 3]. The Type Commander has indirect control of overhaul funds. He is responsible for the ship being in overhaul and has the authority to approve or disapprove most of the work in the work package. However, NAVSEA is responsible for the ship's configuration and approves all alterations and modifications to systems. NAVSEA provides the technical information as well as the funds to conduct these changes [Ref. 24:pp. 37-38].

The SUPSHIP coordinates and administers contract requirements which flow down from NAVSEA, the TYCOM and the ship. The level of SUPSHIP's authority in approving any changes is strictly limited by the guidance provided by the TYCOM or NAVSEA [Ref. 24:p. 38].

The lack of concentrated expertise and central management responsibility for the overhaul fails to provide timely and accurate answers to the following questions [Ref. 18:p. ii].

- 1) Who can ensure that work specification packages are complete and accurate?
- 2) Who is in a position to make timely and informed decisions on proposed changes to contracts?.
- 3) Who can assure that work is of the required quality?.
- 4) Who has visibility to provide reliable feedback on a ship's overhaul?

Government and contractor personnel alike cited the inability of SUPSHIP personnel to provide timely replies and decisions to the contractor as a source of animosity. The absence of prompt decisions on changes, REAs and IDRs contributes to overhaul delays and disrupts the repair effort.

5. The Procurement Process

The fact that the sealed bid contracting method results in contractor buy-ins is well document in previous sections of this study. However, NAVSEA has recently initiated a modified source selection method. A firm fixed-price type contract is awarded to the responsible offeror

submitting the lowest priced, technically acceptable proposal. Each offeror submits a technical proposal and a separate, sealed price proposal. A technical evaluation team evaluates each technical proposal, while the price proposals remain sealed. The price proposals of all technically acceptable, responsible offeror are opened after they are found technically qualified. The price proposals of offerors submitting technically unacceptable proposals are retained unopened [Ref. 28].

This method of source selection has been protested unsuccessfully by offerors with unacceptable technical proposals, as a violation of full and open competition under the Competition in Contracting Act. Contractors contend that NAVSEA should consider their price and technical proposals together and not reject their offer on technical proposal evaluation alone.

Another NAVSEA initiative was implemented on 22 April 1986 when COMNAVSEASYS COM promulgated the Private Sector Ship Repair Cost Control Initiatives. The purposes of these initiatives were to make unrealistically low offers (buy-ins) an unattractive business strategy and to obtain timely performance of changed work at fair and reasonable prices. The initiatives include the following [Ref. 29]:

- 1) A post-overhaul RAV or similar follow-on availability. This will permit separate competition for new work, and non-critical path growth work that can be deferred as necessary from the principal availability.

- 2) Additional Government Requirements (AGR) clauses by which each offerer includes in its pricing a reasonable amount of labor, specified in the solicitation (currently 20% of the repair effort), to be used for completing growth work. Repair schedule should accommodate growth work being time phased into the overhaul or availability without impact.
- 3) Notification in the solicitation that the Navy may exercise its rights under the "Access to Vessels" clause of the MSR agreement. This permits the Navy to employ a third party to complete growth and essential new work, when the initial prime contractor fails to negotiate a fair and reasonable price.

All the contractor interviewees stated that the initiatives were unfair business practices and the Shipbuilders Council of America has challenged their legality in court. Contractors expressed the opinion that it is extremely unfair to require them to preprice growth work before the effort begins. At this time neither the contractor nor the Navy can determine where and what type of growth work will be encountered. Third party access is even more controversial. Contractors contend that under this initiative the Government alone determines what prices are fair and reasonable. If a contractor refuses to accept the Government's definition of a fair and reasonable price, it faces the probability that one of its competitors will be the third party with access to its work site. This would provide a competitor with the opportunity to view propriety work procedures or have access to trade secrets which would enhance its competitive position for future contracts. Deferring certain work was not an issue.

A majority (approximately 75%) of the Government personnel interviewed favored the initiatives. Those individuals who opposed the initiatives expressed objections similar to those cited above concerning the prepricing of growth work. All Government personnel expressed strong support for deferring non-critical work items and were generally supportive of third party access. Several Government personnel thought the AGR clauses should be amended to include subcontractors growth work and that growth work that results from defective specifications should be excluded.

Currently, these initiatives have not eliminated the unusually low contractor bids. Instead, several contractors have priced their growth work rate below their forward pricing rate agreement (FPRA). This practice will further impact a loss posture if the contractor bought-into the contract originally. All Government personnel interviewed believe the AGR clause will increase claims and disputes in the near future. Difficulty has already been encountered in negotiating the hours required to conduct prepriced growth work. Also, there have been attempts on the part of contractors to redefine what is growth work and new work. New work is not prepriced under this initiative.

6. The Competitive and Declining Industry

All Government and contractor personnel supported the opinion that the shipbuilding and repair industry is

extremely competitive and that the future for a large number of contractors is bleak. A recent article in Navy Times (June 1, 1987), "Dismal Future For U.S. Shipbuilding" highlighted this observation. It stated the following [Ref. 15:p. 37]:

For virtually all the nation's major shipyards there is only one customer--the U.S. Navy.

And with the 600-ship fleet nearly complete, shipbuilding executives are worried about where their company's next contract is coming from. For many, there may be no more.

In the last six years the number of skilled shipbuilders in the United States has declined by almost half--from 135,000 to 70,000, according to Paul J. Burnsky, President of the Metal Trades Department of the AFL-CIO. Were it not for the Navy's expanded building program toward the 600-ship goal, the toll would be even greater. New orders for merchant vessels are non-existent. And when the 600-ship Navy is complete, our industrial outlook will become even more grim.

Hans K. Schaeffer, Chairman of Todd Shipyard Corp. contends the shipbuilding industry in the United States is on its way to extinction. He blames much of the decline on the Navy procurement policies adopted by the Reagan administration.

While there is little doubt that the shipbuilding and repair industry of the United States will continue to exist, it is not known which contractors engaged in ship repair will remain in business. Several Government and contractor interviewees predicted that over the next five years, 30 to 40 percent of the ship repair and overhaul industrial base will no longer exist. They believe most casualties will be among the contractors which have failed to invest in modern, efficient facilities.

An executive of a large shipyard outlined the following criteria for survival:

- 1) Invest in modern efficient, facilities
- 2) Maintain skilled labor at a reasonable wage rate
- 3) Pursue aggressive bidding for repair and overhaul work

He stated that the contractors with work will survive, even if the cost of performance exceeds the contract price. Any contractor faced with the prospect of liquidation if unsuccessful in obtaining an award can underbid the cost of performance up to liquidation costs. For example, XYZ Corp is facing net liquidation cost of \$10 million. It receives an IFB from the local SUPSHIP for overhaul of a Navy ship. It can underbid its cost by \$9,999,999. From a purely economic point of view the contractor has improved its financial status. This executive admitted that buy-ins do occur, and once into a contract, there is the strong desire of each business entity to make a profit. The Navy often provides that opportunity through changes and inadequate work package specifications.

7. Cumulative Delay and Disruption

Cumulative delay and disruption refers to the additional impact on all changed and unchanged work. It reflects the fact that the interaction between two or more change orders generates delay and disruption beyond that for each individual change [Ref. 19:p. 4].

Currently, cumulative delay and disruption is the reason most often given as the basis for claims submitted. Both contractor and Government personnel alike have strong opinions on this issue. Cumulative delay and disruption claims are extremely subjective and difficult to quantify , audit, or establish entitlement. The contractors contend that the cumulative cause-effect relationship that generates cumulative delay and disruption cannot be measured when the original change occurred. This is why the magnitude of changes made in almost every repair effort dictate a legitimate recognition of this basis. Most Government personnel expressed the opinion that since the Government pays the contractor to plan and manage the overhaul work, including changes in a timely manner, cumulative delay and disruption should not be allowed.

Additionally, there is no legal precedent for utilizing cumulative delay and disruption as a basis for claims [Ref. 19:p. 1]. However, both contractor and Government personnel note that the Government does recognize the existence of this cause-effect relationship in its claims settlements. It poses a difficult problem in establishing a quantum due to its subjective nature. In a repair effort where contract cost growth is significant, the contractor can claim entitlement after the fact and obtain an unjustified settlement.

8. Other Claims Issues and Problems

Late and defective GFM continues to be a major contributor to contractor claims [Ref. 30:p. 27]. The Navy generally does not hold vendors responsible for the repair or replacement of defective GFM. SUPSHIPS often contract for repairs by the overhaul contractor or an onsite vendor representative to expedite the repair process [Ref. 31:p. 12].

Several contractors stated that Government personnel often effectively accelerate repair contracts by making changes to the contract but then refusing to extend the overhaul schedule. This situation makes it very difficult for the contractor to change the schedule, continue to produce quality work, and maintain the level of efficiency required to realize a profit.

Contractor and Government personnel expressed concern over the reduction of progress payments for ship repair and overhaul from 90 percent to 80 percent. This reduction is expected to cause additional financial strains on an already depressed industry. Several Government personnel are concerned that this situation may prompt some contractors to more readily convert REA's to claims, whereas contractors feared that a reduction in cash flow and the threat of additional withholding would further degrade their negotiation position in adjudicating changes, REA's and claims.

SUPSHIP's staffing was noted by contractors and several Contracting Officers as inadequate to efficiently perform required functions. Contractors were of the opinion that, as a whole the quality of personnel was less than optimum due to the lower Government pay scale and its inability to terminate marginal or below par performers. Most Contracting Officers were pleased with the quality of their personnel and their staffing level for routine operations, however, stated that an inordinate number of claims require reassignment of personnel to meet the contract dispute requirements and seriously impact routine operations.

C. SUMMARY

A variety of critical claims issues and problems have been discussed. The most important of these is the complexity of the ship repair and overhaul process coupled with the fragmented repair management organization. These factors make changes to the contract an integral part of the repair effort. Additionally, the dismal economic status of the industry and the Navy's contracting policies have created an extremely difficult environment in which to negotiate changes and avoid claims.

IV. ANALYSIS AND DISCUSSION

A. INTRODUCTION

Claims and claims avoidance techniques in Government acquisition are well studied subjects. Procedures and recommendations for avoiding and settling claims are addressed in several independent and Government commissioned studies, the Federal Acquisition Regulations, and the local regulations and instructions of virtually every procurement organization in the Federal Government.

The ship repair and overhaul organization is no exception to the above generalization. The enormous \$3.6 billion shipbuilding claims of the 1970's prompted several studies. The most in-depth study was the "Naval Ship Procurement Process Study" which focused on new construction contract awards from FY 1960 to 1978. This study included analyses of outstanding shipbuilding claims; data on contracting policies, contract types and clauses; total change orders; and other aspects of the shipbuilding industry and Navy procurement process [Ref. 21:pp. 1-4]. The complexity of claims negotiations can be highlighted by the fact that these claims were settled for an average of 36 cents on the dollar of the original amount (\$1.3 billion). Over 40 percent of the settlement employed P.L. 85-804 provisions, indicating that strict entitlement procedures

alone are often inadequate to effect final settlement of claims [Ref. 32:pp. 150-151].

The economic reality facing the shipbuilding and repair industry is grave [Ref. 15:p. 37]. Interviewees stated that the decline in the Navy's shipbuilding program (as the goal of the 600-ship fleet is attained), coupled with a reduction in the number of overhauls conducted in private shipyards, will force a downward restructuring of the industrial base. This reduction in overhauls is due to an increase in the number of ships in the phased maintenance program [Ref. 1:p. 10]. This maintenance policy was outlined in Secretary Pyatt's, ASN (S&L), testimony before the Armed Services Sea Power Subcommittee on 26 February 1986 [Ref. 33:p. 2]:

Since 1981, we have drastically changed our ship maintenance philosophy. We have moved from an era where major overhauls occurred every three years to one in which a major overhaul now occurs about every five years with short, maintenance-intensive Selected Restricted Availabilities (SRAs) occurring about every 18 months between overhauls. Thus, we have seen a shift from many ROHs annually and many SRAs. These new maintenance concepts have served the taxpayer well--both minimizing the expenditure of repair dollars, while at the same time substantially increasing the operational availability of our ships.

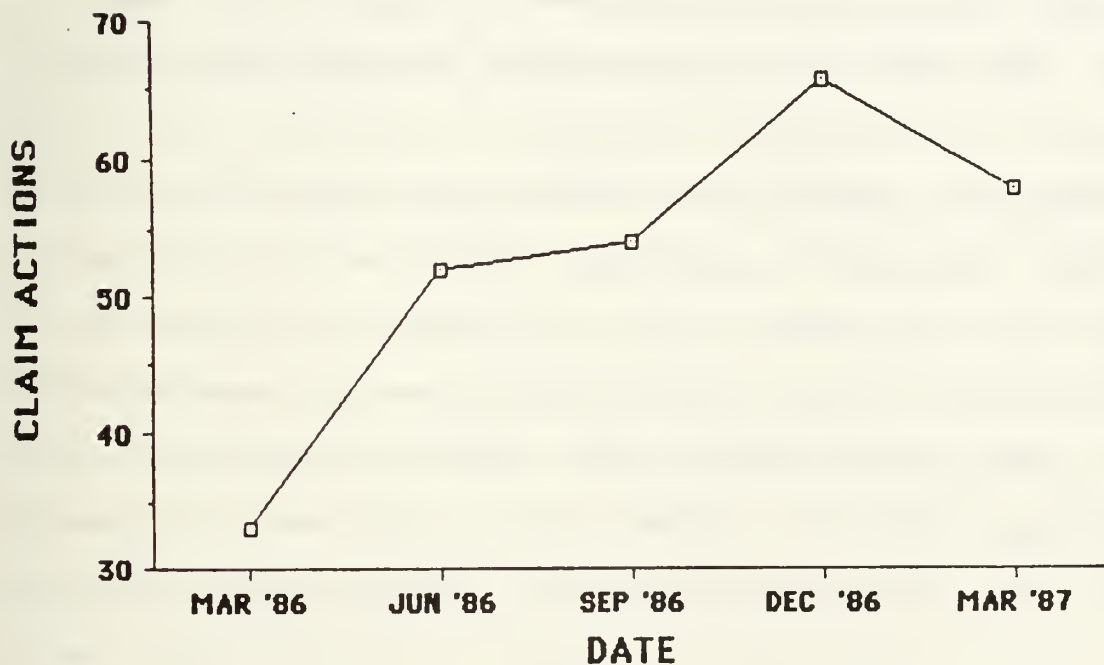
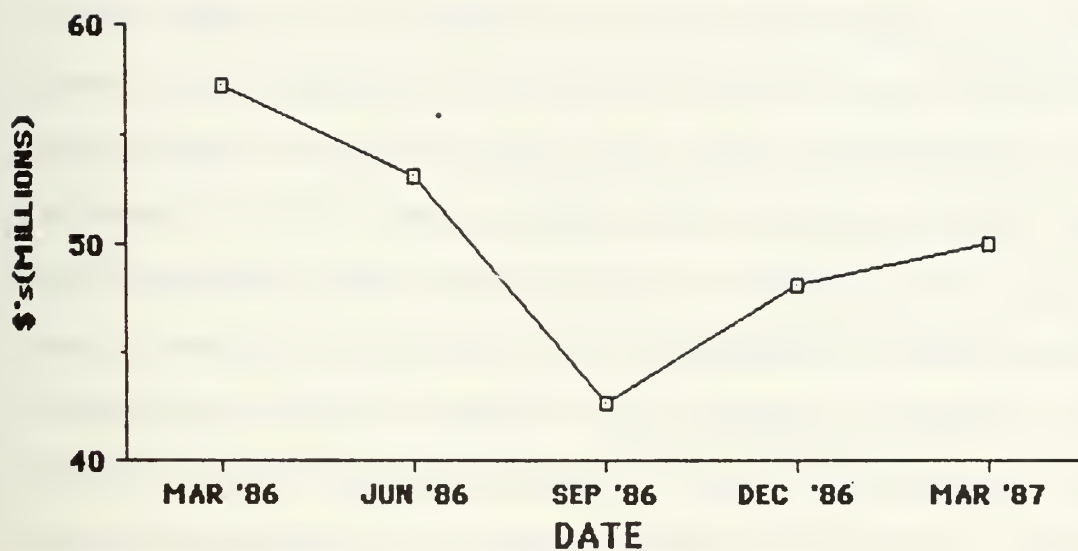
As this evolution occurs, the Navy will continue to face difficulties with claims issues and problems in the administration of ship repair and overhaul contracts in an increasingly competitive industry. An accurate understanding of the causes of claims avoidance techniques and management practices is required to ensure the Navy receives the best possible ship repair services at a fair

and reasonable price. Also, fair and equitable contracting methods must be employed to ensure the most efficient contractors remain a part of this vital industrial base.

B. CURRENT TREND IN CONTRACTOR CLAIMS

The current trend in ship repair and overhaul claims over the past five quarters has been a slight decline in the total dollar value claimed with a corresponding increase in the number of claim actions (see Figure 4-1). Requests for equitable adjustment over the same period showed no definite trend [Ref. 34:p. 2].

The opinions of Government personnel interviewed were that the trend in contractors' claims would increase gradually in both the number of claims filed and the cumulative claim value. This increase would be driven by the industry's depressed economic status and the Navy's continued use of fixed-price type contracts in high work growth situations. They observed that more claims are being filed for smaller dollar values than in the past. This could be a reflection of added financial pressure on the contractor or the desire to recover all perceived entitlement. Both industry and Government personnel expect the trend to continue to increase until the supply in the shipbuilding and repair industry equals the demand for such services.



SOURCE: MAYSEA (CODE 028)

Figure 4-1 Ship Repair & Overhaul Claims

C. CURRENT CONTRACTING METHODS

The current contracting method for the acquisition of ship repair and overhaul services is the use of fixed-price type contracts. An ASN(S&L) memorandum directs all ship overhauls be conducted on a firm fixed-price or fixed-price incentive basis. Single ship SRAs of less than six months duration will be awarded as firm fixed-price contracts by the local SUPSHIPS rather than as multi-ship SRA cost type contracts formerly awarded by NAVSEA headquarters [Ref. 35:p. 1]. An interview with the Surface Ship Overhaul Acquisition Branch Head advised that all future contracts for the Phased Maintenance Program would be fixed-price in accordance with ASN(A&L) guidance. Cost-plus-award-fee (CPAF) contracts were previously used to obtain ship repair services under the phased maintenance concept [Ref. 1:p. 10].

Although the fixed-price contract is mandated for all ship repair and overhaul services, incentive or award fee features can be included to motivate contractor performance. The fixed-price incentive contract provides the contractor with the incentive to control cost. If he can keep the cost of performance below the target cost, he will share in the contract cost savings based on the predetermined share ratio. If costs exceed the target cost of the contract, he must share the higher cost of performance, at the expense of profit, with the Government up to the ceiling price. All

costs above the ceiling price must be borne by the contractor alone.

The award fee aspect of the fixed-price contract is infrequently employed. A firm fixed-price is obtained through the sealed bid source selection process, and a performance fee is established to encourage and reward superior contractor performance. Performance categories (e.g., schedule, technical and management) are established and assigned weights based on their importance to the repair effort. Evaluation periods are also established and a percent of the fee is allocated to each period. Carry over criteria are established for the remainder of the fee not earned in the evaluation period. [Ref. 36:pp. 71-73]

The Navy changed the policy of assigning ships to overhaul in May 1985 from regional to coastwide. This policy was designed to increase competition by providing private shipyards located away from fleet homeports the opportunity to bid on all ship repair contracts over six months duration. It also would distribute the repair workload among private shipyards and add to the industrial base. Since Selected Restricted Availabilities normally are planned to take less than six months, private shipyards in the homeport areas will continue to receive this work [Ref. 25:p. 9].

The phased maintenance program is a relatively new method of obtaining repair services in the Navy. Currently

it is an element of the Auxiliary and Amphibious ship maintenance strategy. It utilizes a series of short Phased Maintenance Availabilities (PMAs) instead of regular overhauls. The PMA repairs are defined to the actual material condition of the ship. This program incorporates multi-ship, multi-year contracts which in the future will be fixed-price. It utilizes the talents of a port engineer to coordinate the repair effort which involves the contractor in the advance planning. This planning concept has fostered continuity in maintenance management and instills a proprietary interest in the repair effort by the contractor [Ref. 1:p. 10].

Contractors interviewed for this study thought the use of a fixed-price contract for multi-ship, multi-year repair services would destroy this spirit of coordination and cooperation. The fixed-price contract would result in low bids and a lack of coordination. Government personnel agreed with this statement; they felt the fixed-price contract would prompt the contractor to cut corners on performance to reduce cost.

D. CLAIMS AVOIDANCE TECHNIQUES

Claims avoidance techniques were found to be the same or similar in all repair organizations visited or interviewed for this study. Each SUPSHIP has a claims avoidance group of varying size and talents as a part of either its Contracts department or Business Review department. A

claims avoidance instruction is in effect identifying the members of the claims avoidance team and their responsibilities. NAVSEA has a Claims Prevention and Negotiation Branch in its Contract Administration and Claims Settlement Division, (Code 028). NAVSEA (Code 028) provides claims avoidance training to the local SUPSHIPS in addition to guidance and assistance in claims adjudication.

SUPSHIP's policy is to analyze and negotiate changes, request for equitable adjustments (REAs) and claims as rapidly as possible based upon the resources available and the cooperation obtained from the contractor. Government interviewees were aware of the competitive nature in the ship repair industry and the propensity for buy-ins. The prevailing SUPSHIP attitude was that if we aren't aggressive in our replies to Inspection Deficiency Reports (IDRs), Contract Problem Reports (CPRs), and adjudicating changes and REAs in a timely manner, the contractor will recover losses or improve his profit posture by successfully showing that the Government delayed or disrupted his repair effort. The general attitude of everyone involved in claims avoidance is evident in an internal NAVSEA memorandum concerning the claim of a particular contractor [Ref. 38:p. 2].

(Contractor) has a long history of submitting inflated claims and REAs and then attempting to pressure the contracting officer, by alleging-sometimes quite emotionally-that the Navy is not negotiating in good faith or is using financial leverage to force an unfair settlement. Our current approach is to analyze

(contractor's) claims as quickly as possible. Unfortunately, (contractor) does not always cooperate and an acceptable review requires several months of investigation. Once we feel comfortable with our analysis, we open negotiations with (contractor) on those areas where we believe he is entitled to compensation. In the event of an impasse, we will quickly prepare a Contracting Officer's final decision and issue it. We are prepared to pay any supported entitlement in selected cases.

Some frustration was expressed by interviewees with the Navy procurement policy which prevents the assignment of contract type based on the risk of performance involved. Several Government personnel were of the opinion that there are times when the complexity of the repair work and the uncertainty of performance justify the utilization of a cost type contract. Routinely, cost type contracts usually require more resources to administer [Ref. 10:p. 23]. However, the interviewees related that a fixed-price contract in a highly complex ship repair effort requires close monitoring of the contractor. If the contractor's bid was unrealistically low, change negotiations are likely to occur in a hostile environment with an aggressive contractor attempting to improve his financial posture in this contract. Additionally, there is the higher possibility of a claim. Add to this the resources required to investigate and negotiate the claim, plus the cost of litigation, if required, and the resources required to administer and settle a fixed-price contract in an inappropriate situation could easily exceed the resources required to administer a cost type contract.

The implementation of the Private Sector Ship Repair Cost Control initiatives have failed to force realistic bids and avoid controversial change negotiations, according to the majority of Government personnel interviewed. The biggest obstacle to the success of the initiatives is the fierce competition within the industry. In order to obtain repair and overhaul contracts, contractors not only submit extremely low bids on base work but also on the prepriced growth work. This tactic increases the impact of the contractor's loss or profit posture and creates a more adverse attitude in negotiating labor hours on prepriced growth work and new procurement for new work.

NAVSEA policy requires the submission of "lessons learned" within 90 days after settlement of a claim to NAVSEA (Code 028). This memorandum report discusses the lessons learned from claims analyses and suggests actions to avoid the recurrence of similar claims [Ref. 8:p. 9]. Research indicates the SUPSHIPS are not currently complying with this requirement.

E. PROPOSED CONTRACTING METHODS AND MANAGEMENT TECHNIQUES TO AVOID CONTRACTOR CLAIMS

A summary of the suggested contracting methods and management practices for the avoidance of claims obtained from the literature and personnel interviews are as follows.

1. Selective Use of Contract Type

The Navy should employ the selective use of cost (CPAF) and fixed-price (FFP, FPI, and FPAF) contracts to reflect the complexity of business risk in the repair effort. A significant aspect of a claims prevention program involves the type, technical content, and clause structure of the contract. The two primary determinants of contract type are technical uncertainty and cost uncertainty, in that order. High technical uncertainty indicates the use of a cost type contract and low technical uncertainty indicates the use of a fixed-price type contract [Ref. 10:p. 22].

The fixed-price contract provides a clear cut incentive for the contractor to control cost, even at the expense of quality. The cost type contract provides the Government the means to assure quality. An award fee feature allows the Government to emphasize the area of performance which it considers most important [Ref. 10:p. 23].

The majority of Government and contractor interviewees agreed that these four contract types should be utilized to obtain ship repair and overhaul services. This choice of contracts will allow the Government to select the contract type to obtain the required repair services at a fair and reasonable price and avoid claims.

2. Modified Source Selection Procedures

Interviewees indicated that NAVSEA should continue to utilize the modified source selection process to ensure the selection of technically competent performers. This source selection method enables the Navy to more effectively eliminate marginal performers with unacceptable technical proposals from consideration, thereby improving the chances of attaining an effective overhaul [Ref. 18:p. 39].

This source selection process still maintains competition by requiring the submission of a technical proposal separate from the cost proposal. Only the cost proposals from offerors found technically qualified will be opened. Award will be made to the lowest responsible offeror [Ref. 28]. Additionally, the more competent contractors tend to submit more realistic bids [Ref. 18:p. 33].

3. Minimize Contract Cost Growth

The Navy should minimize contract cost growth by reducing the number of changes to the contract and improving the specification work package. Contract cost growth is the result of excessive changes to the repair contract due to the Navy's problem with developing work packages for repairs, maintenance and minor modifications. Contract changes not only result in negotiations in a sole source environment, but often contribute to overhaul delays and are the primary reason for contractor claims [Ref. 18:pp. i,ii].

4. Improve Business Relationships

Interviewees believed the business relationship between the Navy and several of its ship repair contractors could be improved through better communication of requirements, an improved economic environment for the industry, and a change in the Navy's procurement policy. Government interviewees stated that adverse business relationships stemmed from the competitive nature of the industry. Contractors making a reasonable profit do not file claims, and business transactions are conducted in an amicable environment. Contractors contend the Navy's use of fixed-price contracts (primarily FFP and FPIF), stringent repair schedules and unfair contract clauses (e.g., Additional Government requirements) add to the animosity of the business relationship. Increased communications, timely adjudication of changes and REAs, and prompt responses to IDRs will improve business relationships. Also, a consideration of the contractor's opinion regarding schedule adjustments and technical problems in the issuing of changes to the contract was an item contractors cited to improve relationships.

5. Reject Unrealistic Bids

Interviewees indicated that the Navy should adopt a policy of outright rejection of bids that guarantee a loss to the contractor if no changes are made to the contract. This would be consistent with the DOD policy of paying a

fair and reasonable price for services provided to the Government [Ref. 5:para. 3-801]. Government personnel stated the policy should require automatic rejection of a bid of a specified percent (30% or more) below the Government estimate or the average of the bids from all competing offerors.

6. Concentrate More Expertise and Key Management Responsibilities at the SUPSHIP Level

The Navy's planning and management system for private sector overhauls is fragmented, with many organizations involved in the decisionmaking process. No single entity seems to have the expertise or managerial responsibility for ensuring the success of a repair or overhaul. Concentration of ship repair expertise and managerial responsibility at the SUPSHIP level would [Ref. 18:pp. ii, 26]:

- a) improve work specifications packages
- b) provide timely and informed decisions of proposed changes to the contract
- c) assure work is of the required quality
- d) provide reliable feedback
- e) control cost by ensuring only the required work is authorized.

Government interviewees cited this proposed policy as an effective means of improving the repair process. If SUPSHIP controls over funds and contract changes were increased, more timely decisions could be provided in response to IDRs and the adjudication of changes and REAs.

7. Improve the Delivery of Government Furnished Material

Timely delivery and management of GFM requires [Ref. 30:p. 27]:

- a) early identification of GFM requirements
- b) verification of requirements
- c) timely delivery of GFM.

Government personnel stated the contractor should be required to adjust the dates GFM is required when changes to the contract or repair schedule alter the date material is required. Additionally, the increased use of Contractor Furnished Material (CFM) for common items would reduce the workload of personnel providing GFM.

8. Address Cumulative Delay And Disruption

A methodology for forward pricing the cumulative delay and disruption impact of a change order is necessary to effectively estimate total cost. The method could include the application of predetermined factors to the price of a negotiated change to account for its anticipated cumulative impact [Ref. 38:p. 6]. Both Government and contractor interviewees advocated some method of recognizing the cumulative delay and disruption impact of contract changes. However, attempts by SUPSHIP San Diego to negotiate such an agreement was unsuccessful. An agreement on the factors could not be attained [Ref. 38:pp. 9-12]. The prime objective should be to obtain a waiver or full release of the contractor's rights with respect to the

cumulative effect of delay and disruption up to that point in contractor performance. [Ref.39:p. 257].

9. Other Methods And Techniques

Government interviewees believe the Navy should implement measures to deny contractors in a loss position, due to contract buy-in or poor management, the opportunity to recover cost. Accordingly, extra effort is required to ensure that unavoidable changes are reasonably priced and that cost growth within the contract is properly identified and kept to a minimum [Ref. 11:p. 5.51-8].

Both Government and contractor interviewees suggested that the Navy, DOD, and Congress formulate a comprehensive policy with respect to the maintenance of the shipbuilding and repair mobilization industrial base. A clear cut policy from Congress regarding the support, or lack of support, in attaining commercial contracts and the procurement policies of the Navy would assist marginal contractors in determining future operations. At the present time, marginal contractors are more apt to submit unrealistic bids and file contractor claims. Such a policy might reduce this tendency.

Government interviewees believe we should increase the progress payment rate from the current 80 percent to the old rate for shipbuilding and repair of 90 percent. All personnel interviewed agreed this increase will have a profound impact on the financial health of contractors,

especially the smaller contractors with high value contracts.

There is a question whether or not the SUPSHIPS are adequately staffed with quality personnel. While the SUPSHIPS expressed confidence in the quality of their people, several contractors expressed a different opinion. Most contractor interviewees thought the SUPSHIPS do not employ quality personnel to accurately estimate and plan the repair work, provide timely responses to IDRs and promptly adjudicate changes and REAs.

F. OBSTACLES TO IMPLEMENTATION OF VARIOUS CONTRACTING METHODS AND MANAGEMENT PRACTICES

In the previous section, the literature and responses from interviewees suggested various methods for ship repair and overhaul contracting. This section addresses some of the obstacles to the implementation of those methods and management practices. Government interviewees cited the complexity of the ship repair and overhaul process along with Navy policy and funding constraints as the major obstacles to implementation of these suggested contracting methods and management practices.

The Government's legislatively preferred contracting methodology is to use sealed bidding resulting in a firm fixed-price contract [Ref. 16:p. 9]. Additionally, the Secretary of the Navy has directed that the procurement of all ship repair and overhaul services be contracted for on a

fixed-price basis. Interviewees indicated that the obstacles to the utilization of other than fixed-price contracts in ship repair and overhaul acquisition are:

1. The availability of an extremely competitive market with excess capacity.
2. A fixed-price contract will provide the lowest initial cost and risk to the Government.
3. The fixed-price for the repair service provides flexibility in budget execution for the funding activities.
4. Anything other than the sealed bid process violates the concept of full and open competition, and may result in a protest of the award by other offerors.
5. The contractor is willing to accept a fixed-price contract.
6. The source selection process is less complicated and under routine circumstances a fixed-price contract requires less resources to administer.
7. Cost type contracts do not provide a strong incentive to control cost.
8. Cost type contracts may encourage the diversion of skilled labor to fixed-price contracts.
9. Despite the technical complexity and business risk involved, cost type contracts are perceived as sweetheart deals.

The means for prevention or rejection of an unrealistic bid in a fixed-price procurement are extremely limited [Rep. 11:p. 5.5.1-9]. The Contracting Officer can initiate communications with the contractor to ensure the unrealistic bid isn't the result of an error or misunderstanding. If the contractor can meet the requirements of the IFB, is financially responsible and technically qualified, the Navy has no choice other than to award the contract to the

unrealistic bidder [Ref. 11:p. 5.5.1-1]. The prevailing legal view is that fixed-price bids may not be refused because they knowingly understate the anticipated cost of performance. This is supported by the following decision of the Comptroller General: "Although below cost bids are to be discouraged, they are not prohibited by procurement regulations and so this office will not object to contract awards on this basis" [Ref. 40].

The complexity of the ship repair process is the primary obstacle to minimizing contract cost growth, and the prevention of the opportunity of a contractor in a loss posture to recover cost. A large part of the work to be done is not definitized until after contract award. Growth and new work requirements are difficult to estimate and work packages must be prepared months in advance of the start of work [Ref. 16:p. 12].

Interviewees indicated that funding constraints and compensation under the Civilian Personnel Pay and Promotion System are the primary obstacles to attaining the personnel and resources necessary to staff SUPSHIPS to a level that can respond rapidly to the requirements of the repair effort. Contractor interviewees believed the Civilian Personnel System of pay and promotion attracted personnel of lower quality or experience. Interviewees thought the complexity of the repair process would require enormous resources to develop adequate work specification work

packages and to effectively manage GFM. Additionally, the deficit posture of the United States Government and the prohibitive cost of subsidies will not permit the Administration or Congress to subsidize commercial shipbuilding and repair to adequately sustain the current industrial base [Ref. 3:p. 1].

G. SUMMARY

The data presented in this chapter clearly show that there are no easy solutions for the avoidance of claims in ship repair and overhaul. Although extensive literature research and many experienced Government and industry personnel were interviewed, no single all encompassing solution was developed which did not conflict with other goals, policies or realities. The only consensus reached was that an improvement to the economic status of the industry, and a reduction in contract cost growth must be attained to improve the adverse business relationship and avoid future contractor claims. NAVSEA has implemented initiatives which, under more favorable industry conditions might produce good results. The next chapter provides the conclusions and recommendations of this research.

V. CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY

The two primary reasons for contractor claims in the ship repair and overhaul industry are:

1. The inability of the Navy to control contract cost growth resulting from changes to the contract.
2. The dismal economic status of the shipbuilding and repair industry.

The fierce competition among the contractors in the industry is amplified by their need to obtain Navy contracts to survive as business entities. The consensus of the Government interviewees is that this dilemma has increased the number of unrealistic bids (buy-ins) submitted by contractors in response to IFBs. The Navy's procurement policy for repair and overhaul services has intensified this situation. This policy directs the acquisition of all repair and overhaul services to be contracted for on a fixed-price basis. Because the Navy is the dominant customer in the industry (Navy contracts accounted for 90% of all industry repair and overhaul work in 1986), contractors have little leverage in altering this policy.

The contractors' willingness to submit unrealistic bids may hinge on the fact that the Navy will almost always make changes to the contract. These changes are negotiated in a sole-source environment. This provides the contractor with

an advantage in change negotiations and the opportunity to recover costs and convert a loss posture to one of profit. The complexity of the overhaul process and the inability of the Navy to provide definitized specification work packages are the primary contributions to contract cost growth. Other factors which contribute to cost growth are: late and defective GFM; contract acceleration; delays in responses to IDRs; and the failure to negotiate or adjudicate changes, REAs, and disputes in a timely manner. The above factors coupled with the Navy's control of the contracting process have created an adverse business relationship between the Navy and its contractors. In this environment, several contractors view the claims process as routine within the business and a preferred method of settling disputes.

The primary motivation for claims avoidance is the extensive resources required, by both the Government and the contractor, for preparation and litigation of claims and disputes. Business and professional reputations are tarnished and one of the most significant, but unquantifiable, costs is the possible delay in the return of a ship and her crew to the active fleet.

B. CONCLUSIONS

As stated in the previous chapter there is no one set of contracting methods and management techniques which can be employed to reduce or avoid contractor claims in ship repair and overhaul. The majority of the personnel interviewed

expressed the same or similar opinion as the former NAVSEA Deputy Commander for Contracts, RADM L. Hopkins. In his opening remarks before a Claims Lessons Learned Seminar conducted by the Navy Logistics Management School, he stated [Ref. 23:p. 2]:

. . . . We cannot prevent a claim from being filed. The Navy is not perfect regarding its actions with a contractor and there will always be some basis for a claim whether it is filed or not. However, keep this in mind for it is important, it is likely that a contractor who is making a profit will not submit a claim.

The researcher agrees with the Admiral that it would be highly unusual for a contractor reaping a reasonable profit to file a claim. However, the Navy is not in the repair and overhaul business to guarantee its contractors a profit. The Navy's overhaul and repair organizations have been tasked by the Secretary of the Navy with the responsibility of obtaining these services at a fair and reasonable price to the Government.

The researcher also agrees with the Admiral on the point that we cannot prevent the tendency of contractors to file claims. While we cannot prevent all claims, several contracting methods and management techniques can be employed to prevent claims in the ship repair and overhaul industry.

The conclusions of this research on ship repair and overhaul claims and claims avoidance techniques are:

Conclusion 1. An intensive ship repair and overhaul claims avoidance effort exists, however, it lacks a coordinated policy.

There is no central policy which outlines the use of contracting methods and other management techniques to avoid ship repair and overhaul claims. The management and funding of the repair process is fragmented and requires considerable effort and skill to coordinate. The approach to claims avoidance and the make-up of the claims avoidance team at each local SUPSHIP is a function of the personalities involved. The more common aspects of claims avoidance efforts such as the maintenance of significant events files and the prompt pricing and negotiations of contract changes, were consistent or similar. However, several low profile but significant procedures differed. For example, personnel training and qualifications were not consistent. Also the utilization of surveyors to negotiate low dollar value changes to contracts was not employed consistently in field activities.

Conclusion 2. Ship repair and overhaul contractors generally believe that claims development and submission are a routine part of doing business with the Navy.

Most contractors stated the contracting policies of the Navy made the development and submission of claims a routine business practice. Contractors stated the following

contracting procedures and management practices created this environment:

- a. the exclusive use of fixed-price contracts, despite the complexity of the repair effort
- b. the issuance of unilateral contract changes
- c. the requirement to maintain the original repair schedule while absorbing several changes to the contract
- d. the requirement to preprice unknown growth work prior to contract award
- e. the refusal of the Navy to recognize the contractor's entitlement to cumulative delay and disruption that result from numerous changes to the contract.

Conclusion 3. Contractors believe that buy-ins are necessary in order to remain competitive in the ship repair business.

Contractors interviewees stated that obtaining contracts in the currently competitive ship repair and overhaul environment made it necessary to entertain contract buy-ins or the submission of bids with zero profit margin as a business strategy. Both Government and contractor interviewees believed a reduction in the industrial base will occur over the next five years. This decline will result from the lack of commercial contracts, a decline in the Navy's shipbuilding program and the change in the Navy's maintenance policy. This maintenance policy will reduce the number of ship overhauls by increasing the number of ships in the Phase Maintenance Program.

Contractors stated that those who obtain contracts, even below the cost to perform, will continue to exist as business entities, whereas those who do not will be forced to close or enter a different industry. The basic policy of most contractors was to bid as low as necessary to obtain contracts and look to improve their loss or profit posture through changes to the contract.

Conclusion 4. Ship repair and overhaul contractors believe that the Navy is unwilling to adjust the ship repair and overhaul schedules when demanded by substantial growth work.

Both contractor and Government interviewees stated that returning the ship to the fleet on the scheduled repair completion date was a significant concern. The Type Commanders have direct control over repair funds and indirect control of the repair process. In addition to repair concerns, the Type Commanders have rigid operational schedules to fulfill. These requirements have long made the Navy reluctant to extend schedules, often to the detriment of overhaul quality and the incurrence of contract cost overruns. Contractors contend that any acceleration of the contract reduces efficiency and disrupts the repair efforts. Contractors also contend that negotiations of efficiency loss and disruption with the Navy is very difficult.

Conclusion 5. There were no significant contractor efforts to avoid claims evident in the literature or interviews.

Contracting Officers stated they often have a difficult time obtaining a waiver or release of the contractors' right to claims or the signing of a modification. Contractors contend that it is almost impossible to anticipate all of the cost impact of a change at the time the change occurs [Ref. 10:pp. 6,26]. Additionally, contractors contend that the claims process is a method of ensuring that cost entitlement is obtained.

Government interviews stated the above position is taken by all contractors, even those not in a loss or low profit posture. Also, any contractor in a loss posture actively seeks opportunities to recover cost through changes to the contract or the development and submission of claims. [Ref. 10:p. 6]

Conclusion 6. Ship repair and overhaul contractors believe the Government is conducting unfair business practices with the inclusion of the Additional Government Requirements (AGR) Clauses in the contract. Contractors stated that the Government is engaging in unfair business practices by requiring them to preprice growth work before the effort begins. At this time neither the contractor nor the Navy can determine where and what type of growth work will be encountered. Third party access is even more

controversial. Contractors contend that under this initiative the Government alone determines what prices are fair and reasonable. If a contractor refuses to accept the Government's definition of fair and reasonable, the Government has the option of obtaining another contractor to perform the task on the first contractor's work site. This third party, with access to its work site, could be a major competitor. This would provide a competitor with the opportunity to view propriety work procedures or have access to trade secrets which would enhance its competitive position for future contracts.

Conclusion 7. The shifting of ship overhauls from regional to coastwide competition did not improve the competitive position of those contractors located outside of major homeports.

This policy change has not significantly affected the distribution of maintenance actions because the Navy has been increasing the number of selected restricted availabilities and decreasing the number of overhauls. Since selected restricted availabilities normally are planned to take less than six months, private shipyards in the homeport areas will continue to receive most of this work. Additionally, other repair work to fill in the slack periods between the award of overhaul contracts does not exist.

C. RECOMMENDATIONS

Recommendation 1. The Navy should utilize both fixed-price and cost-reimbursement type contracts in the acquisition of ship repair and overhaul services. A significant aspect of claims prevention is the utilization of the appropriate contract type. The exclusive use of fixed-price contracts requires the availability of reasonably definite design or performance specifications and that a fair and reasonable price can be established initially [Ref. 5:para. 3-406.1]. The primary determinants of contract type are technical uncertainty and cost uncertainty. While the fixed-price contract usually provides the lowest initial cost and risk to the Government, there are clearly situations where the risks of performance and cost are sufficient enough to justify the Government accepting a larger share of contract risk. Although there is a great deal of uncertainty in all Navy repair efforts, due to the nature of the work itself, cost-plus-award-fee contracts should be reserved for complex repair work. The use of a fixed-price contract in highly complex repair efforts may result in attaining a lower quality overhaul at a higher cost upon completion of change negotiation and claim settlements.

Recommendation 2. Implement a source selection process which rejects unrealistic contractor bids. This policy would be consistent with DOD policy that requires the

payment of fair and reasonable prices for supplies and services [Ref. 5:3-801]. Successful implementation of this policy will require the establishment of source selection evaluation criteria for rejection of unrealistically low bids. For example, bids that are a certain percent below the Government estimate or the average of all the contract bids would require communications with that contractor to ensure a mistake was not made. If no mistake was made, the contractor would be required to submit a detailed breakdown of the estimate for review for cost realism by a source selection evaluation group within NAVSEA headquarters. This policy would tend to reduce protests by unsuccessful offerors alleging buy-ins. The specifics of the source selection evaluation criteria would be promulgated in the solicitation for bids.

Recommendation 3. NAVSEA should revise the Additional Government Requirement (AGR) Clause to recognize anticipated growth work by various categories, growth work from defective Government Furnished Information (GFI) and subcontractor costs. Currently, growth work under the clause is prepriced in total up to 20 percent of the base overhaul hours. The clause should be revised to reflect anticipated growth work requirements in hull, mechanical, electrical, electronics, and other similar categories. For example: the make-up of the growth work hours could be hull --10%, mechanical--45%, electrical--20%, electronics--15%,

misc.--10%. The allocated percentages could be developed by ship type and provided in the IFB. All contractors cited the difficulty encountered in prepricing an unknown entity. This procedure would assist the contractor in his efforts and demonstrate the Navy's willingness to ensure fair and reasonable bids are submitted.

Delete growth work that results from defective GFI and price it at the forward pricing rate. The contractor should not be required to preprice growth work for an item that is exclusively the responsibility of the Government.

NAVSEA should not delete subcontract costs from the AGR rate. Several Government and contractor personnel suggested the removal of this requirement from the clause. Removal of this requirement will allow the contractor to game the process by subcontracting out all or selected growth work, thereby nullifying the effects of the clause. This would be particularly so if there are no limitations on subcontracting in the contract.

Recommendation 4. NAVSEA should continue efforts to control and reduce contract cost growth. Contract cost growth is a primary cause of contractor claims due to delay and disruption. It also provides contractors in a loss posture, due to a buy-in or poor management, the opportunity to recover costs. Additional resources should be utilized to ensure that GFM, both information and equipment, is identified, verified, and delivered in a timely manner.

Changes should be approved and priced expeditiously to prevent delays in the repair process. SUPSHIPS should discuss anticipated problems and changes with NAVSEA and the TYCOMs in advance, and obtain authorization to act promptly when action is required.

Recommendation 5. The Congress, DOD and the Navy should promulgate a comprehensive policy for shipbuilding and repair mobilization base maintenance. The present industrial base has sufficient capacity to support mobilization, but is far in excess of the current demand. At present, several marginal contractors are hopeful that Congress will pass legislation to subsidize the industry and preserve the industrial base, or require the Navy to conduct more repairs and overhauls in private shipyards. A policy statement would allow these marginal contractors to either plan for a transition to a new industry, close their operation or modernize their facilities if the current industrial base will be maintained. This recommendation might ease the adversity and cut-throat competition in the industry.

Recommendation 6. NAVSEA should ensure that the SUPSHIPS are adequately staffed with well trained personnel. Qualified personnel are required to accurately plan and estimate the repair work; provide timely responses to Inspection Deficiency Reports and Contract Problem Reports; promptly authorize and negotiate changes; and adjudicate

REAs, claims, and disputes. SUPSHIPS personnel must possess the knowledge and authority to carry out their contact administration responsibilities.

Recommendation 7. NAVSEA should promulgate a standard policy for the composition and skill levels of the claims avoidance field organizations. Most SUPSHIPS claims avoidance divisions or teams are understaffed. A variety of personnel of different grade levels make up the group. As a minimum, the group should be headed by a GS-12 or GS-13. Each group, at the very least, should include a contracts specialist, industrial specialist and price analyst. The group may be augmented as required to support increased workloads.

Recommendation 8. NAVSEA and SUPSHIPS should take a proactive attitude to improve the business relationship with its contractors. A variety of measures can be taken to attain this end. The Government should seriously attempt to deal fairly and equitably with its contractors. The contract type employed should reflect the nature of the repair or overhaul services required. The role of the Contracting Officer in issuing unilateral changes to the contract should not be abused. Contractor cooperation should be obtained and encouraged in restructuring requirements.

The Post Award Orientation Conference should be utilized to establish contract requirements, clarify initial

questions and concerns, and open well-defined and effective lines of communications. A spirit of cooperation should be established and maintained throughout the contract performance period. The Significant Events Meetings should be utilized to reinforce this process and identify ongoing or scheduled events which are potential claim areas.

Recommendation 9. The Navy should evaluate the total impact of reducing the progress payment rate from 90 percent to 80 percent. This study should focus on the financial status of contractors, ship delivery schedules and claims potential to the Navy. For example, the impact on a medium sized, highly leveraged contractor with \$40 million in Navy contracts can be critical. The contractor must in effect finance approximately \$8 million of the repair effort. If he has utilized debt to modernize his facilities and his profit margin is low, he will have difficulties obtaining the financing necessary to perform. This may negatively impact the quality of the work and the repair schedule.

Recommendation 10. The Navy should study the concept of enhancing ship repair and overhaul management and technical expertise at the SUPSHIPS location. The SUPSHIPS possess limited authority and technical expertise in controlling key management functions which are essential for consistently ensuring effective ship repairs and overhauls. Although the local SUPSHIPS are the closest to the repair effort and liaison daily with the contractors, NAVSEA and the TYCOMs

control the funds and the repair effort. For most changes required to the contract, the SUPSHIP must obtain approval from NAVSEA or the TYCOM. Highly technical changes may require extensive communication of requirements to higher authority, and a lengthy technical evaluation by experts at the NAVSEA level. Long approval cycles affect the contractor's efforts and are major contributors to delay and disruption claims. Placement of technical expertise and authority at the SUPSHIP level may speed up the approval process and improve the quality and cost efficiency of ship repair and overhauls.

Recommendation 11. The Navy should establish standard guidelines and policies with respect to cumulative delay and disruption. While contract law, and Contracting Officers' decisions continue to deny entitlement for the effect of cumulative delay and disruption in contractor claims, the impact of delay and disruption continues to be considered in the negotiated settlement of claims. The Navy should establish a policy of rejection or recognition of cumulative delay and disruption. If recognized, guidelines should be developed for evaluating the impact and establishing entitlement.

Recommendation 12. The period for submitting a claim against the Government should be made definite. The lack of a time limit on the submission of fully documented claims provides the contractor with the opportunity to determine

the level of profitability of a particular contract and then file a very complicated omnibus claim. The time lapse places the Government at an additional disadvantage due to the transfer of personnel and the higher number of repair efforts assigned to Government personnel. As an example, a two year statute of limitations would provide ample time for contractors to submit fully documented claims. The Navy and DOD should submit legislation to Congress to effect such a requirement.

Recommendation 13. NAVSEA should require SUPSHIP's compliance with the requirement to submit lessons learned from claims which have been resolved. NAVSEAINST 4365.1c requires the claim team manager to forward to NAVSEA (Code 028), a memorandum report discussing the lessons learned from claims analyses and suggested actions to avoid the recurrence of similar claims. This report is to be forwarded 90 days after the claim is settled. NAVSEA should issue quarterly claims lessons learned bulletins to its fields activities.

D. REVIEW OF RESEARCH QUESTIONS

Answers will be provided to the subsidiary questions first culminating with the primary research question.

1. Subsidiary Questions

What are the current bases of ship repair and overhaul claims? The primary bases for claims are: 1) changes to the contract, 2) late and defective GFM, 3)

economic and contractual causes, and 4) complex causes and effects. Delay and disruption are the largest claim elements in dollar value, averaging over 50 percent of the total dollars claimed.

What are the current principal contracting areas in ship repair and overhaul that contribute to contractor claims? The exclusive use of fixed-price contracts in the acquisition of ship repair and overhaul services is the major contributor to contractor claims. The source selection criteria under the competitive bidding process allows the contractor to submit unrealistic bids. The intense competition within the depressed industry often forces contractors to buy-in just to obtain contracts. Once awarded the contract, the contractor utilizes every opportunity to correct his loss or improve his profit posture through the sole-source negotiation of changes to the contract. The use of fixed-price contracts for highly complex overhauls coupled with the contractors' willingness to buy-in and attempt to improve his loss posture through sole-source negotiations significantly contribute to contractor claims and the existence of an adverse business relationship.

How have the recent Congressional and DOD initiatives to reduce cost through full and open competition affected ship repair and overhaul claims? The passage of the Competition in Contracting Act (CICA) promoted more

competition in an already competitive environment. It allowed unsuccessful offerors to submit unsubstantiated bid protests. A bid protest under the provisions of CICA requires the delay of contract award or the start of work until the protest is resolved. Additionally, in an environment of full and open competition, some Contracting Officers felt compelled to consider bids from offerors who did not hold a MSR contract or an agreement for boat repair for simple ship repair services.

What effect have socio-economic initiatives had on the ability of the contracting officer to eliminate irresponsible bid proposals from section 8 (a) small business contractors? Contracting officers indicated that the cooperation they received from the Small Business Representatives was excellent. Only one case was cited in which a small business failed to perform. The small businesses operate with a lower overhead and in most cases their price proposals are realistic.

What are the critical economic factors in the ship repair and overhaul industry and what effect have they had on the industry's ability to perform? The critical economic factor in the ship repair and overhaul industry is that the supply of repair and overhaul services significantly exceeds the demand. Additionally the industry is dominated by one customer, the U.S. Navy, who is in a position to dictate contracting terms and demand competitive pricing of

services. The Navy's demand for efficient performance and competitive prices require the contractors to streamline operations and invest in modern efficient equipment with no guarantee of Navy contracts to finance this investment. The fierce competition within the industry has prompted the submission of unrealistic bids to obtain contracts. This tactic usually results in either cost-cutting methods which diminish quality, obstinate negotiations of changes to the contract, or the submission of a claim to correct the initial loss posture. Both the literature and interviewees predict a dismal future for the industry. The general consensus among all interviewees was that at least 30 percent of the industrial base will not survive the next five years.

What are the effects of the current "NAVSEA anti-buy-in" initiatives? The private sector ship repair cost control initiatives (anti-buy-in measures) have aggravated the adverse business relationship. Several contractors have underbid both the base contract and the growth work, thereby intensifying their loss posture.

Can ship repair and overhaul acquisition be modeled to reduce or avoid claims and disputes? The research indicates that there is no one set of contracting methods and management techniques which can be employed to reduce or avoid claims. The complexity of the ship repair and

overhaul process requires that each situation be approached individually.

2. Primary Research Question

What are the contracting and management techniques and procedures that can be employed to reduce and avoid contractor claims in the ship repair and overhaul industry and how might such claims be avoided in the future? The application of sound business judgement and appropriate contracting methods during the repair effort can prevent most claims and disputes.

E. AREAS FOR FURTHER STUDY

Several areas of ship repair and overhaul claims and claims avoidance techniques were uncovered during the research which were beyond the scope of this paper but deserve additional investigation. Areas recommended as follow-on thesis or research topics are:

1. Develop source selection methods to prevent contractor buy-ins under the master ship repair contract.
2. Analyze the impact of the Private Sector Ship Repair Cost Control initiatives.
3. Determine the ideal organization for the acquisition of ship repair and overhaul services, including staffing, managerial and technical requirements.
4. Determine the industrial base required to support the Navy's future ship repair and overhaul service requirements.

APPENDIX A

MILESTONES FOR PLANNING PRIVATE SHIPYARD OVERHAULS AND SELECTED RESTRICTED AVAILABILITIES

A. MILESTONES FOR PLANNING PRIVATE SHIPYARD REGULAR OVERHAULS

- A-500 PERA provide repair planning letter and material ordering guide to the SUPSHIP planning activity. SUPSHIP begin overhaul planning.
- A-500 PERA complete Pre-Overhaul Test and Inspection (POT&I) plan and promulgate tasking for POT&I execution.
- A-485 SUPSHIP identify, from this POT&I plan, components and/or systems for SUPSHIP internal POT&I execution. (SUPSHIP activities shall focus POT&I efforts on these components or systems that are known problem areas).
- A-480 SUPSHIPS receive baseline SARP with "D" and "K" Alterations.
- A-479 SUPSHIPS receive PERA identified Long Leadtime Repair Material (LLTM).
- A-475 SUPSHIP begin contract specification preparation for repairs and alterations and provide copies (as completed) to TYCOM, PERA, overhaul SUPSHIP and ship for review.
- A-450 NAVSEA/PERA provide advance planning letter with initial funding for SHIPALTs based on the Fleet Modernization Program (FMP).
- A-450 TYCOM/PERA provide advance planning letter with initial advance planning funds, milestones and D-Alterations and repairs.
- A-450 SUPSHIP commence identifying/ordering long-leadtime material to support NAVSEA/TYCOM alterations and repairs.
- A-390 NAVSEA/TYCOM provide long-leadtime material funds to SUPSHIPS.

A-375 SUPSHIP received completed BACDs from planning yard.

A-360 SUPSHIP begin consolidated Ship Allowance List (COSAL) update.

A-360 SUPSHIP complete shipchecks, prior to ships deployment and commence development of Supplemental Alteration Drawings (SAD).

A-300 Complete POT&I.

A-280 PERA provide completed POT&I report to SUPSHIP/TYCOM.

A-270 SUPSHIP complete Supplemental Alteration Drawings (SAD).

A-260 PERA provide proposed SARP for SUPSHIP cost estimating.

A-240 NAVSEA provide ship alteration authorization letter.

A-230 SUPSHIP issue cost proposed SARP to TYCOM/PERA for review prior to Work Definition Conference (WDC).

A-230 SUPSHIP provide preliminary SHIPALT cost estimates to NAVSEA.

A-200 Work Definition Conference (WDC).

A-200 TYCOM provide screened supplementary repair work request. (After A-180 only emergent/mandatory work requests shall be submitted by TYCOM.

A-200 NAVSEA cancel SHIPALTs for which special program material, essential installation material and or design agent documents, by formal letter or message, that the required material or plans will not be available before the start of the ship's availability or, in the case of overhauls scheduled to take more than 9 months to complete, that material will be available at least 30 days prior to actual need. Prior to cancellation of a SHIPALT for lack of material or plans, NAVSEA will advise OPNAV OP-43) of its intended action.

A-185 PERA provide authorized SARP to SUPSHIPS.

A-170 SUPSHIP completed bid specifications to support baseline SARP and additional work items resulting from W.D.C.

A-170 SUPSHIPS provide final SHIPALT cost estimate to NAVSEA.

A-165 Planning SUPSHIP turnover specifications to overhaul SUPSHIP and confer.

A-165 SUPSHIPS request NAVSEA/TYCOM to provide funds required to support total estimate of overhaul package.

A-150 SUPSHIP issue Solicitation for Bids (IFB).

A-150 Contractor's evaluation of scope of contract specifications for bidding purposes.

A-90 Cut-off date for amendments to IFB.

A-74 Bid opening.

A-72 SUPSHIP conduct pre-award survey.

A-64 SUPSHIPS forward readiness report to begin and complete overhaul to NAVSEA/TYCOM. IAW (NAVSEA 074 Ltr Ser 565 of 4 Jan 78).

A-60 Award Contract.

A-60 SUPSHIPS advise NAVSEA of dollar amount of contract award to SHIPALT.

A Begin overhaul.

A thru comp. SUPSHIPS continually update SARP for submission to PERA/TYCOM following completion of ship overhaul.

C+30 SUPSHIP provide input to PERA for post overhaul analysis report.

C+60 SUPSHIP provide departure report in accordance with NAVSEAINST 4790.14 and marked-up 4720/3.

C+75 PERA issue updated SARP resulting from availability completion.

C+90 Complete and deliver all Selected Record Drawings and Date.

C+90 PERA issue Post Overhaul Analysis Report (POAR).

The above schedule should be adjusted for planning RAVs (nonemergent) as follows:

<u>Scope of Work Package (Mandays)</u>	<u>Submit Screened Work Request</u>	<u>Award Notification</u>
A. Greater Than 8,000	A-140	A-30
B. 8,000-4,000	A-140	A-30
C. 4,000-800	A-100	A-14
D. 800-400	A-40	A-10
E. Less Than 400	A-30	A-7

B. MILESTONES FOR PLANNING PRIVATE SHIPYARD SELECTED OVERHAULS

- A-540 PERA provide repair planning letter and material ordering guide to the SUPSHIP planning activity. SUPSHIP begin overhaul planning.
- A-540 PERA complete Pre-Overhaul Test and Inspection (POT&I) plan and promulgate tasking for POT&I execution.
- A-525 SUPSHIP identify, from this POT&I plan, components and/or systems for SUPSHIP internal POT&I execution. (SUPSHIP activities shall focus POT&I efforts on these components or systems that are known problem areas).
- A-500 SUPSHIPS receive baseline SARP with "D" and "K" Alterations.
- A-495 SUPSHIPS receive PERA identified Long Leadtime Repair Material (LLTM).
- A-495 SUPSHIP begin contract specification preparation for repairs and alterations and provide copies (as completed) to TYCOM, PERA, overhaul SUPSHIP and ship for review.
- A-470 NAVSEA/PERA provide advance planning letter with initial funding for SHIPALTs based on the Fleet Modernization Program (FMP).

A-470 TYCOM/PERA provide advance planning letter with initial advance planning funds, milestones and D-Alterations and repairs.

A-470 SUPSHIP commence identifying/ordering long-leadtime material to support MAVSEA/TYCOM alterations and repairs.

A-425 NAVSEA/TYCOM provide long-leadtime material funds to SUPSHIPS.

A-385 SUPSHIP received completed BACDs from planning yard.

A-360 SUPSHIP begin consolidated Ship Allowance List (COSAL) update.

A-375 SUPSHIP complete shipchecks, prior to ships deployment and commence development of Supplemental Alteration Drawings (SAD).

A-340 Complete POT&I.

A-320 PERA provide completed POT&I report to SUPSHIP/TYCOM.

A-290 SUPSHIP complete Supplemental Alteration Drawings (SAD).

A-305 PERA provide proposed SARP for SUPSHIP cost estimating.

A-270 NAVSEA provide ship alteration authorization letter.

A-270 SUPSHIP issue cost proposed SARP to TYCOM/PERA for review prior to Work Definition Conference (WDC).

A-250 SUPSHIP provide preliminary SHIPALT cost estimates to NAVSEA.

A-240 Work Definition Conference (WDC).

A-230 TYCOM provide screened supplementary repair work request. (After A-180 only emergent/mandatory work requests shall be submitted by TYCOM).

A-220 NAVSEA cancel SHIPALTs for which special program material, essential installation material and or design agent documents, by formal letter or message, that the required material or plans will be available be the start of the ship's

availability or, in the case of overhauls scheduled to take more than 9 months to complete, that material will be available at least 30 days prior to actual need. Prior to cancellation of a SHIPALT for lack of material or plans, NAVSEA will advise OPNAV OP-43) of its intended action.

- A-220 PERA provide authorized SARP to SUPSHIPS.
- A-200 SUPSHIP completed bid specifications to support baseline SARP and additional work items resulting from W.D.C.
- A-200 SUPSHIPS provide final SHIPALT cost estimate to NAVSEA.
- A-195 Planning SUPSHIP turnover specifications to overhaul SUPSHIP.
- A-195 SUPSHIPS request NAVSEA/TYCOM to provide funds required to support total estimate of overhaul package.
- A-180 SUPSHIP issue Solicitation for Bids (IFB).
- A-180 Contractor evaluation of scope of work prescribed in contract bid specifications.
- A-120 Cut-off date for amendments to IFB.
- A-104 Bid opening.
- A-102 SUPSHIP conduct pre-award survey.
- A-94 SUPSHIPS forward readiness report to begin and complete overhaul to NAVSEA/TYCOM. IAW (NAVSEA 074 Ltr Ser 565 of 4 Jan 78).
- A-90 Award Contract.
- A-90 SUPSHIPS advise NAVSEA of dollar amount of contract award to support ship alterations.
- A Begin overhaul.
- A thru comp. SUPSHIPS continually update SARP for submission to PERA/TYCOM following completion of ship overhaul.
- C+30 SUPSHIP provide input to PERA for post overhaul analysis report.

- C+60 SUPSHIP provide departure report in accordance with NAVSEAINST 4790.14 and corrected 4720/3.
- C+75 PERA issue availability completion SARP.
- C+90 Complete and deliver all Selected Record Drawings and Date.
- C+90 PERA issue Post Overhaul Analysis Report (POAR).

C. PLANNING MILESTONES FOR SELECTED RESTRICTED AVAILABILITIES (SRA) (DDEOC)

- A-360 Identify ship alteration packages.
- A-355 Issue ship alteration planning letter and advance planning funds.
- A-330 Verify Ship alteration and BACD applicability.
- A-300 Identify availability of material for ship alterations.
- A-275 Conduct repair ship check.
- A-270 Finalize ship alteration package.
- A-260 Produce baseline SARP and material list.
- A-270 Forward baseline SARP and material list to planning activity.
- A-190 Complete supplemental Alteration drawings.
- A-180 Produce preliminary SARP.
- A-165 Forward preliminary SARP to the planning activity for cost estimates.
- A-130 Conduct overhaul assessment.
- A-120 Produce and distribute proposed SARP.
- A-80 Complete bid specification preparation.
- A-60 Planned work cut-off.
- A-60 Review bid specifications.
- A-55 Work definition conference (W.D.C.)

A-50 Issue solicitations for bids (IFB).
A-50 Contractor shipcheck.
A-50 PERA issue authorized SARP.
A-35 Bid opening.
A-30 Update specifications and SARP to reflect emergent
 work.
A-10 Contract award.
A- Begin SRA.
A+7 Industrial work complete/accomplish seatrials.
A+60 Issue departure report.
A+65 Issue availability.

Source: NAVSEA Ship Repair Manual

APPENDIX B

LIST OF ACRONYMS AND ABBREVIATIONS

ACO	Administrative Contracting Officer
AGR	Additional Government Requirement
ASBCA	Armed Services Board of Contract Appeals
ASN(S&L)	Assistant Secretary of the Navy (Shipbuilding & Logistics)
CFM	Contractor Furnished Materials
CNO	Chief Naval Operations
COFD	Contracting Officers Final Decision
COMNAVSEASYS COM	Commander Naval Sea Systems Command
CPAF	Cost Plus Award Fee
CPR	Contract Problem Reports
DAR	Defense Acquisition Regulations
DOD	Department of Defense
FAR	Federal Acquisition Regulations
FFP	Firm Fixed-Price
FPAF	Fixed-Price Award Fee
FPIF	Fixed-Price Incentive Fee
FPRA	Forward Pricing Rate Agreement
GAO	Government Accounting Office
GFE	Government Furnished Equipment
GFI	Government Furnished Information
GFM	Government Furnished Materials

IDR	Inspection Deficiency Report
IFB	Invitation For Bids
IMA	Intermediate Maintenance Activity
MSR	Master Ship Repair
NAVSEA	Navy Sea Systems Command
PERA	Planning and Engineering Repair and Alterations
PMA	Phased Maintenance Availabilities
Ravs	Restricted Availabilities
REA	Request for Equitable Adjustments
RFP	Request For Proposal
SARP	Ship Alteration and Repair Package
SRA	Selected Restricted Availabilities
SUPSHIP	Supervisor of Shipbuilding, Conversion and Repair
SYSCOM	Systems Command
TAVs	Technical Availabilities
TYCOMS	Type Commanders

APPENDIX C

LIST OF INTERVIEWEES

Bennett, E., Contract Administration Repair Division Head, (code 420) SUPSHIP, San Diego, Personal Interview, April 1987.

Brockway, C.J., General Engineer, NAVSEA Contract Administration and Claims Settlement Division, Personal Interview, April 1987.

Calstald, J., Assistant Contract Officer, (code 401), SUPSHIP, Brooklyn, Telephone Interview, May 1987.

Colen, M.E., Group Vice President for Engineering and Program Management, Avondale Shipyards, New Orleans, LA, Telephone Interview, April 1987.

Ethridge, S., Deputy Contract Officer, (code 401), SUPSHIP, San Diego, Personal Interview, April 1987.

Grassi, J.P., Assistant Director, NAVSEA Contract Administration, Surface Ship Overhaul and Claims Settlement Division, March 1987.

Hargrove, J., CDR, SC, USN, Contract Officer, (code 400), SUPSHIP Newport News, Telephone Interview, June 1987.

Hastings, J., CDR, SC, USN, Contract Officer, (code 400) SUPSHIP, Portsmouth, Telephone Interview March 1987.

Hey, D., Director of Contracts, Southwest Marine, San Diego, CA, Telephone Interview, May 1987.

James, L., General Engineer (code 028E), NAVSEA Contract Administration and Claims Settlement Division, Personal Interview, March 1987.

Johnson, J., Director of Repair Contracts, National Steel and Shipbuilding Company, Telephone Interview, May 1987.

Jung, W., Claims and Settlement Department Head, NAVSEA Contract Administration and Claims Settlement Division, Personal Interview, March 1987.

Kemp, C., Contracting Officer, SUPSHIP, Portsmouth, Personal Interview, March 1987.

Ketts, R.L., CDR, SC, USN, Surface Ship Overhaul Acquisition Branch Head, (code 0285) NAVSEA Contract Administration and Claims and Settlement Division, Telephone interview, February 1987.

Kranes, S., Claims Avoidance Section, NAVSEA Contract Administration and Claims Settlement Division, Telephone Interview, February 1987.

Kurfeks, W.G., Director of Ship Repair Programs, Shipbuilders Council of America, Telephone Interview, May 1987.

Matshushimi, R., Contract Officer, (code 400) SUPSHIP, Seattle, Personal Interview, May 1987.

Mckercher, D., Contract Officer, SUPSHIP, Long Beach, Telephone Interview, May 1987.

Morrison, R.R., Contracting Officer, SUPSHIP, Seattle, Personal Interview, March 1987.

Peak, N.K., Administration Contracting Officer for Modifications and Changes, SUPSHIP, Seattle, Personal Interview, March 1987.

Pearson, L., Ship Project Manager, SUPSHIP, Portsmouth, Personal Interview, March 1987.

Pease, M., Repair Superintendent, (code 600) SUPSHIP, San Diego, Personal Interview, April 1987.

Powers, D., Director of Contracts, Triple A South Inc., Telephone Interview, April 1987.

Reilly, M.A., Counsel, SUPSHIP, San Diego, Personal Interview, April 1987.

Rutter, M., Director Business Review, (code 160), SUPSHIP, Seattle, Personal Interview, March 1987.

Riles, E., Vice President, Norfolk Naval Shipyard, Norfolk, VA, Telephone Interview, March 1987.

Sorrell, G., Claims Division Head, (code 460) SUPSHIP, San Diego, Personal Interview, April 1987.

Springer, C.H.T., Counsel, (code 130) SUPSHIP, Seattle, Personal Interview, March 1987.

Tompkins, R., Assistant Contract Officer, (code 401), SUPSHIP, Seattle, Telephone Interview, February 1987.

Vandenberg, G.R., Repair Superintendent (code 605), SUPSHIP, Seattle, Personal Interview, March 1987.

Watson, S.T., Head, Proposal Evaluation Division, (code 450), SUPSHIP, Portsmouth, Personal Interview, April 1987.

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